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RACIAL DIFFERENCES IN TELEVISION WATCHING, FAMILY CONTEXT AND READING ACHIEVEMENT

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RACIAL DIFFERENCES IN TELEVISION WATCHING, FAMILY CONTEXT AND READING ACHIEVEMENT

by

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Dedication

I respectfully dedicate this Dissertation to my grandparents Ernest and Ida Mae White and Jesse and Carrie Wyatt who showed me that perseverance and family were the secrets to success.

I also dedicate this Dissertation to their great-grand children (my children, my nieces and my nephews) Zachary, Daniel and Jada Nelson; Desmond and Charese Wyatt; Brittany, Sidney and Ashley Wyatt; and Alexus and Quinton Wyatt-Hinton.

When you get the choice to sit it out or dance,

I hope you Dance!

And

To Chris, your love, sacrifice and support made this possible.

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RACIAL DIFFERENCES IN TELEVISION WATCHING, FAMILY CONTEXT AND READING ACHIEVEMENT

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The question of whether television helps or hinders student's reading performance has been debated since the medium was introduced with a substantial body of research reporting a negative relationship. Previous studies that have examined television watching and reading achievement generally have had at least one of the following limitations: (1) small or otherwise unrepresentative sample; (2) has been cross-sectional, rather than longitudinal; (3) failure to consider the family context in which television occurs. This study was designed to overcome these deficiencies by using nationally representative data from National Education Longitudinal Study of 1988-1990 (NELS:88-90). These surveys included a sample of 18,706 African American and White students who were studied both as eighth graders (1988) and about two years later as tenth graders (1990).

Cross-sectional analyses revealed that the patterns of associations between predictors and television watching are not similar among African American and White

students. Despite variation in time spent watching television among African American students, the predictors used were less useful in explaining individual differences for this group than they were for White students.

Cross-sectional analyses considering the relationship between the amount of television watched and reading achievement found that the amount of television hours watched is almost always *not* significantly associated with reading test scores for African American students and almost always associated with reading test scores for White students. When longitudinal controls are added, however, the relationship between amount of television watched and reading achievement for both African American and White students were statistically insignificant.

There seems to be almost a working assumption by researchers and the public that television impairs the development of reading skills. The cross-sectional analysis generated by my analyses replicate the findings of previous research efforts for White students only. It is clear that upon closer inspection, by implementing a more rigorous specification of the conditions and mechanisms that play a role in this relationship, the finding of no association longer seem compelling. The findings from this study add to our understanding of adolescent's television watching and its relationship to academic achievement.

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Chapter 1: Introduction and Background

INTRODUCTION

There are few in today's society who would deny the importance of literacy. Reading equips an individual for lifelong learning, builds language acquisition, increases vocabulary and allows the exchange of ideas. More than a tenth of the nation's population is functionally illiterate however, reading below the sixth grade level (Jones-Scott, 1991; Jacobson, et al., 2001). Couple this with the fact that adolescents are watching three or more hours of television per day, and we begin to wonder if television is associated to reading, and further what role the family may play in this relationship.

Parents and educators are concerned because children, who spend more time watching television, must be spending less time on other activities. This is a very simple statement on the surface but, in fact, has very important implications concerning the impact of television. For instance, if television is displacing other beneficial activities such as reading, the effects of television may be a crucial issue when they occur among young viewers during their developmental years (Huston et al., 1990).

With over 98% of American households owning at least one television set and a growing number of households having multiple sets, television has become a dominant force in the lives of Americans. The average child spends more hours per year watching television than they do engaging in formal education (Stroman, 1986). There has been much debate over the effects of children spending so much time in front of the television. Just as schooling has been proven to have a profound influence on reading achievement, a heavy, long-term diet of television watching could affect adolescents' reading achievement as they transition to high school.

The influence of television may be negative, with time spent on television watching displacing time that could be better spent on more beneficial activities such as reading, hobbies and creative skills. Television watching could also lead to the cultivation of mental habits that are inconsistent with academic achievement (Hornik, 1981). Although most studies focus on the negative effects of television, (Hornik, 1981; Potter, 1987; Henggeler et al., 1993; Prawd, 1995), some studies have found positive effects (Berry & Mitchell-Kernan, 1982; Stroman, 1986; Caldas & Bankston, 1999). Television watching may not just entertain, but also inform and stimulate interest in academically relevant topics to which a child may not otherwise be exposed. Television watching may also provide an alternative to families who cannot afford after school care or live in unsafe neighborhoods where the alternative is unsupervised activities, such as hanging out on a street corner.

Television, however, is not watched in a vacuum; it is watched within a household. Any conceptualization of the role of television watching must begin by considering the family as the context in which viewing is performed and made meaningful. I conceptualize family context to include family background characteristics (i.e., race, family income, parents' education, maternal employment) and parental involvement (i.e., parental supervision, rules about television use and programs). Moreover, I consider race to be a significant indicator of family context.

There are several compelling reasons to believe that the impact of television watching may be greater for minorities and African Americans in particular. For example, studies indicate that for African American children, weekly television viewing exceeds their parents' 40-hour work week (Stroman, 1986, Caldas & Bankston, 1999).

Despite the extensive attention that has been given to examining television's impact on students, minority students have been underrepresented in much of the research on television; yet because they watch a lot of television, they may be more affected, positively and negatively, than those students on whom studies have previously focused.

I argue that the family context in which children watch television is a key determinant of how television watching can help or hinder reading achievement during middle school and high school. The relationship between television watching and reading achievement is complex and needs further elaboration to clarify the conditions under which a relationship might exist. Previous studies that have examined this relationship generally had at least one of the following limitations: a small or otherwise unrepresentative sample, a cross-sectional study, or a failure to account for the family context in addition to television watching and reading achievement. Further, my focus on adolescents will expand the literature, which to this point has focused primarily on young children.

BACKGROUND

Many studies connect television watching with lower reading scores (Gaddy, 1986; Potter, 1987; Kurtz-Costes, 1997; Huston et al, 1990). There is no denying that television watching plays a central role in the lives of children. Television viewing patterns begin fairly early and, once established, are reliable and consistent over time (Tangney & Feshbach, 1988; Huston et al., 1990). Given children's extensive viewing, parents and researchers frequently question the impact of television watching on achievement and more specifically on reading achievement. The question is simple enough; the answer however is not. To understand the complexity of the role television watching plays on reading achievement in middle and high school, I must first

disentangle the mechanisms that come into play in attempts to understand television's estimated influence.

My literature review is divided into two sections. In the first section, I examine previous research on the influence of family background differences and parental involvement on television watching. I provide an overview of how adolescents and parents incorporate television watching into their everyday lives and offer some understanding of the many roles that television can play in family life. In the second section, I review the literature on the effects of television use on reading achievement. Here, I discuss the major hypotheses that have sought to explain the relationship between television watching and reading achievement over the last 50 years.

FAMILY CONTEXT OF ADOLESCENT TELEVISION USE

Despite moral panics about the family and television watching, we still know very little about how families, rather than individuals, use television watching in their daily lives. Many media scholars have tended to view television watching as somehow "supplanting family functions", rather than investigating how television watching is adapted to families' economic and cultural needs (Van Evra, 1990). The perspective used in this study will be one that attempts to understand individual television habits in relation to the family's attitudes and habits about television.

Family Background Characteristics and Television Watching

Race

Research examining the influence of television watching has focused primarily on samples with White populations. In contrast, relatively little information exists about television watching and its use by other racial and ethnic groups, such as African

Americans, Hispanics, and Asian Americans. This is a particularly troubling issue because minority children are more likely to watch a lot of television and therefore may be most affected, positively or negatively, by television watching (Stroman, 1991; Caldas & Bankston, 1999; Huston et al., 1999).

The limited research that focuses on the exposure of African Americans to television watching suggests that African Americans watch much more television than any other racial group, even when social class is controlled (Kubey & Csikszentmihalyi, 1990; Caldas & Bankston, 1999; Comstock & Scharrer, 1999; Huston et al., 1999). The average African American household watches 69 hours and 48 minutes of television per week, whereas the average White household watches 47 hours per week (Kubey & Csikszentmihalyi, 1990), a difference of about 3 hours per day. Studies indicate that for some African American children, weekly television viewing exceeds their parents' 40-hour work-week (Stroman, 1991). To help explain this difference, it has been argued that African American families are often poor, less mobile, and less able to afford alternative forms of entertainment or babysitters, and thus rely heavily on television as a source of entertainment (Anderson & Williams, 1983; Stroman, 1991).

Socioeconomic Status

Research on television watching clearly demonstrates that socioeconomic status; measured by family income and parents' highest education, is strongly associated with television use. Time spent viewing television is inversely related to parents' education and income levels (Bianchi & Robinson, 1997, Comstock, 1991, Huston et al., 1990). A survey conducted by Mediamark Research Inc. (1996), found those individuals in the highest income brackets watched less television than those in the lower income brackets.

Also, people with higher education levels tended to watch less television than those people with lower educational levels.

Huston et al. (1999) found that parent education and the quality of the home environment were positively associated with individual differences in the time children spent watching television. The effects of parental education appear to be mediated by a stimulating home environment that may provide alternatives to television and by parent regulation and selectivity with regard to television watching.

Parental Involvement and Television Watching

The above discussions provide an overview of factors that influence television watching among students. Television watching is often related to one's background, but it is by no means a simple function of income, social class, or education. Wealth is no guarantee that an individual will be able to put leisure time to good use. The reasons that adolescents watch television is often more complex than just passing time. These reasons are multiple and varied.

Parental involvement often includes components such as actual or perceived expectations for school performance, verbal expectations or interactions regarding schoolwork, direct reinforcement of improved academic performance, or general academic guidance and support. A recent longitudinal study of the effects of parental involvement found significant increases over time, with the greatest gains shown in reading skills. Similarly, research has shown positive effects on achievement when parents provide rewards for improvement on daily in-class assignments and for direct parental involvement in compensatory education programs. Despite the obvious influence of parents and siblings on children's television experience, studies of the impact of television watching on families have been sparse.

There are multiple ways in which families establish different television viewing patterns. Parents influence television watching in three important ways; 1) their attitude about the medium, 2) their regulation and or mediation of the medium and 3) their viewing habits. Below I discuss how these two forms of parental involvement emerge and influence television use.

Parents' Attitudes about Television Watching

Parents' perceptions of television influence the degree to which they monitor and control television in the family (Fabes et al., 1989). A good deal of survey research shows that parents are concerned with the violent and sexual content of television programming; parents also worry about the amount of time their children spend watching television. Gunter & Svennevig (1987) and Brown & Bryant (1990) summarized research regarding the effects of television on family life. These studies suggest a receptive attitude by families and children toward television as a teacher and as a model of beliefs about family life and what behavior is appropriate and desirable in the family.

Parental Supervision of Television Watching

The questions regarding the actual form that supervision assumes in families, as well as how much supervision of viewing by children is done have not been comprehensively answered. Several researchers have studied how parents control television watching and their explicit rules about their amount of time and content. Most families report that rules vary by the age of child. Stranger (1998) reported that 65% of parents set rules governing television viewing by children. Rules about television watching are generally viewed by researchers as mediating variables or attempts by parents to moderate the influence of television watching through control of viewing

(Morley 1986; Lull, 1990). Estimates of the actual percentage of parents who actively regulate their children's television watching, however, vary from study to study.

Taras et al. (1990) reported that only 15 percent of the parents reported regulating their children's viewing of particular television shows. Only 38 percent of the parents reported frequently discussing television programs with their children and only 20 percent agreed that more than half of their children's viewing time was spent with parents engaged in co- viewing. At the same time, 65 percent of mothers in the sample believed that they had a strong influence on their children's television viewing selections.

Some parents regulate television watching because they are concerned about the total amount of time children spend watching, the time of day it is viewed, or its interference with other activities. Zinsmeister (1997) conducted a study of parents who removed televisions from their homes. Parents removed televisions because it encouraged passivity among family members of all ages, stifling creativity, and reducing interpersonal and physical activity. Parents who imposed time limits on television watching say they did so to promote healthier and more creative activities. They may set absolute limits on the amount that children are allowed to watch, while others require completion of certain tasks before watching television.

The mediation and regulation of television watching is heavily dependent on the family environment. In their study of Black and White students, Caldas & Bankston (1999), found that in less advantaged homes, parents are less likely to have rules about television watching. They concluded that the safety of the neighborhood had a direct impact on their likelihood to have rules about television use. They found that in neighborhoods where safety was an issue, parents preferred to have their children in the home watching television instead of on the streets. Furstenberg and his colleagues

described this type of parenting strategy in their 1999 book, Managing To Make It. In their study, they found parents used proactive prevention in keeping adolescents away from the destructive force of neighborhoods. The quote below illustrates how being a parent of an adolescent in an unsafe neighborhood requires walking a fine line between too much and too little control. Furstenberg cites a typical parental response to perceived danger in the neighborhood.

> You have to know what to protect them against, what to tell them, give them different signs to look out for [when you live in a neighborhood like this]. Whey they want to go outside it's just, you, know, [if] it's like crowded or like something that's going [on]. You know, sometimes, you can just feel it. You know they have to come in; they have to stay in the house. They wouldn't go to the store. And if you see like groups of boys out there and stuff like that, you know, my husband or myself will go. It's safer for one of us to go as opposed to Robert.
>
> -- Managing to Make It (Furstenberg et al, pg 120)

Clearly, parents of an adolescent in a neighborhood considered unsafe feels forced to choose between the television and the street.

Research on student success conveys the clear assumption that parental involvement benefits children's learning. Parents' intimate involvement in structuring their child's time allows students to engage in productive activities that develop creativity and intellect. Parental involvement appears to be important in structuring television time, and it seems likely that such involvement has both direct and indirect effects on television watching. If so, parental involvement with homework and television time seems a likely means of improving academic achievement. That is, parents who take a more active role in their child's educational and social lives should be more likely to encourage their children to study harder and spend less time watching television.

Above, I presented descriptive information about how family context influences adolescent television watching. I identified the variables that may potentially intervene in the relationship between television watching and reading achievement. In the following section, I will focus on the relationship between television watching and reading achievement.

TELEVISION WATCHING AND READING ACHIEVEMENT

Earlier Research

Many of the early concerns about television's effects on achievement focused specifically on reading skills and reading habits. A study of a community before and after television was introduced indicated that although television watching did not result in the decline of well-established reading skills, it likely slows the acquisition of those skills. In the earliest studies addressing the relationship between television watching and achievement, researchers typically found no evidence of detrimental effects of television watching. For instance, in a study of 1,000 middle school aged students, Clark (1951, as cited in Neuman, 1991) found that the academic performance of heavy viewers did not differ from that of light viewers.

Similarly, Greenstein (1954, as cited in Neuman, 1991) concluded that television viewing could not be held responsible for decreasing grade point averages. Greenstein also noted that students with a television in the home had higher grade point averages than students without a television, a phenomenon most likely related to socioeconomic status (SES) in the 1940s and 1950s. However, most of these early studies did not establish any direct relationship between television viewing and reading achievement.

More recent research addressing the relationship between television viewing and reading achievement has yielded contradictory findings. In small-scale studies incorporating statistical control for the confounding variables of IQ, SES, and parental education, researchers typically found no relationship between television watching and reading achievement (e.g., Ritchie et al, 1987). In contrast, secondary analyses using large scale data sets have shown that for adolescents, television watching was negatively related to reading achievement (Gaddy, 1986; Potter, 1987; Armstrong et al., 1991; Anderson & Collins, 1988; Mutz et al., 1993).

Theoretical Advances

The last two decades have marked a clearer specification of the hypotheses between television watching and reading achievement. Researchers have argued that there are both positive and negative effects of television on reading achievement. Hornik (1981) proposed six hypotheses about the relationship between television watching and reading achievement, each of which identifies a different mechanism to explain the association that might exist. Although few have been tested empirically, they provide a framework for looking at possible connections between television watching and reading achievement. Hornik's mechanisms include the possibility that television viewing (1) displaces study time, (2) engenders intolerance for the pace of school, (3) stimulates interest in topics covered in the classroom, (4) teaches school-equivalent content, (5) cultivates new cognitive skills that may overlap or compete with reading skills, or (6) provides instrumental information about school behavior.

Although formulated as possible processes underlying a relationship between achievement and the amount of television watching, most of the mechanisms have implications that extend beyond simple time spent watching television. For example,

intolerance for the pace of schooling and the nature of the family context is likely to moderate displacement. Moreover, depending on the program content, watching television can be a cognitive skill-developing activity.

The earliest and most studied theory explaining the effects of television watching on achievement is the displacement hypothesis (Hornik, 1981; Gaddy, 1986). The hypothesis contends that television watching displaces more beneficial activities such as reading, homework or other activities conducive to intellectual growth (Hornik, 1981). The empirical findings from the majority of studies are consistent with the displacement hypothesis (Armstrong el al., 1991). Corteen & Williams (1986) suggested that the main variable accounting for the poorer reading of heavy viewers is the displacement of practice time and the loss of fluency especially for those with learning disabilities or other difficulties with reading who most need the practice.

Simply reducing viewing time, however, does not guarantee more reading; I argue that choices about how individuals spend their time are shaped by family context (i.e., parental education, family income and parents attitudes about television). Several studies have revisited the time displacement hypothesis and found that there is no solid evidence that television watching necessarily displaces activities that are more cognitively valuable than television viewing, such as reading and homework (Mutz et al., 1993; Caldas & Bankston, 1999; Huston, 1991). Rather, television watching might displace activities that are less valuable cognitively such as entertainment from movies or comic books. Although some increase in reading occurs, at least in the short term, when television viewing is reduced, most of the extra time that becomes available is spent on other recreational activities (Huston, 1991).

Some researchers have argued that the importance of television in the lives of students is related to their available time (Neuman, 1986, Huston, 1999). Children who have few alternative activities available to them will spend more time watching television. We may then anticipate a negative relationship between television watching and achievement because heavy watchers lack the stimulation of other activities. Thus, a family context that can provide interesting, development-enhancing opportunities may indirectly discourage the child from watching as much television as do their peers from homes that are unable to provide such stimulation.

Still other researchers have concluded that television watching actually has, or can have, a positive impact. Television watching can sometimes stimulate interest in school subjects (Hornik, 1981). Also, the television medium presents information about history and culture that would otherwise be unavailable to children (Morgan & Gross, 1990). Bianculli (1992) forcefully argued that television watching is the catalyst for much more cultural and academic literacy in American society than it is given credit for. Further, Graves (1982) concluded that instructional and educational television has a positive influence on minority students' cognitive performance.

It appears that while the overall relationship between television watching and achievement is curvilinear with the highest achievement in some middle range of television watching. But, substantial differences have been found when sub-populations differing in age, ability, socioeconomic background, and the like are assessed separately (Williams et al., 1982; Armstrong et al., 1991; Caldas & Bankston, 1999). Such analyses suggest that there may be less of an impact of television watching on achievement for some groups, and that there may be a positive association between television watching and achievement for others.

CURRENT STUDY

In this dissertation, using data from The National Longitudinal Survey (NELS:88-90), the specific goals of this study are to investigate (a) family context and after school measures that predict heavy television watching among African American and White student; (b) the association between television watching and reading achievement in middle school; (c) the role that the family context, after school activities and English grades play in the relationship between television watching and reading achievement; (d) the association of middle school television watching and high school reading achievement; and (e) the role the family context, after school activities and prior achievement play in the relationship between middle school television watching and high school reading achievement.

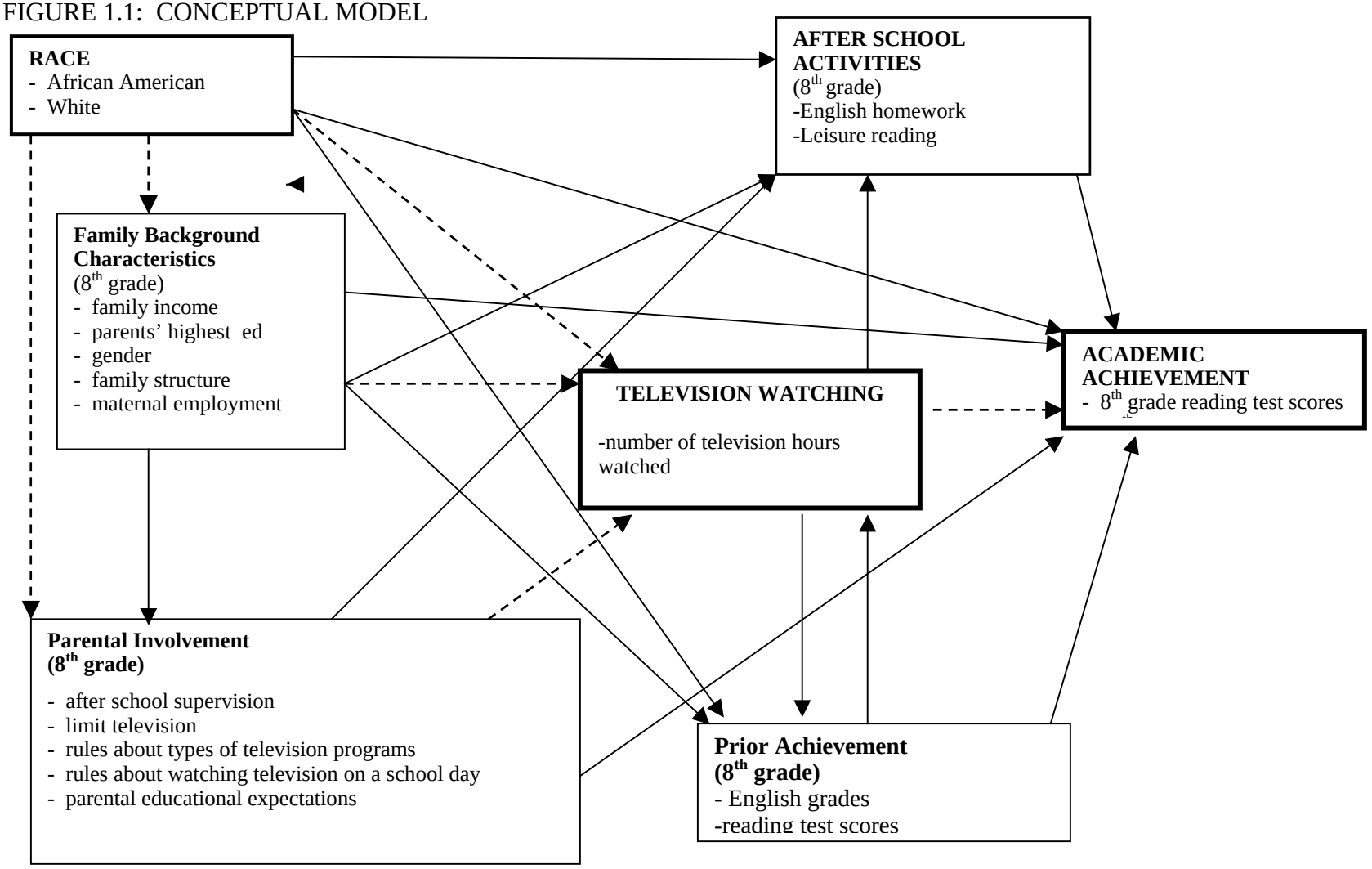
In the chapters that follow, I use data from a nationally representative, longitudinal sample of 24,599 eighth graders The National Education Longitudinal Study (NELS:88-90), to examine the relationship between television watching and reading achievement. Most studies that have examined the relationship between television watching and reading achievement have been cross-sectional except for three panel studies over the last fifteen years. I focus primarily on within group differences of African American and White students and the role of family background characteristics, parental involvement, after school activities, and prior achievement in predicting the amount of television hours watched by students. Overall, the results of this study presents a picture of the factors that contribute to television watching in middle school and how the family context in which television is watched is associated with the relationship between television watching and reading achievement for African American and White students.

In Chapter 3, I investigate which family context factors and after school activities are the best predictors for watching a heavy amount of television for White and African American students. Figure 1.1 depicts this part of the study with a solid line that is labeled C3. This relationship has been established in the literature for White students, but has not been established for African American students.

In Chapter 4, I examine the relationship between television watching and reading achievement and the role that family context, after school activities and prior achievement play in that relationship. Figure 1.1 depicts this part of the study with a solid line that is labeled as C4.

In Chapter 5, I investigate the solid line that is labeled as C5 in Figure 1.1. In the final stage, a longitudinal analysis is conducted to investigate whether early television watching is associated with later reading achievement. I investigate the mediational processes that underlie the family background characteristics, parental involvement, after school activities and prior achievement that influence television watching and its association with reading achievement.

FIGURE 1.1: CONCEPTUAL MODEL



Chapter 2: Data and Methods

In this chapter, I describe the panel data that was used to examine the hypothesized relationship between television watching and reading achievement in middle and high school. I also describe the measurement of the variables employed as well as the analytical technique I use to estimate the association between reading achievement and television watching.

DATA

In this study, I analyze data from the National Education Longitudinal Survey (NELS:88-90), a nationally representative, longitudinal sample of 24,599 eighth grade students from 1,057 schools. Students were initially interviewed in 1988 and followed up in 1990, 1992 and 1994. In this study, the base year (1988) and the first follow-up (1990) will be used. Conducted by the United States Department of Education (National Center for Education Statistics, 1988), the base year study collected information from student surveys and tests, and from surveys of the students' parents, teachers, and school administrators. The NELS:88-90 includes extensive information about a cohort of students' background and family as well as their academic progress from eighth grade until two years after most students had graduated from high school and many had continued on to college. Several questions about television watching were asked of students and parents because of the special attention that was focused on parental involvement in the data set.

The NELS:88-90 is well suited for examining my research questions because it contains longitudinal data on academic achievement. First, students were administered a standardized reading test in eighth and tenth grade, two years apart, which allows for assessment of the temporal effect of reading achievement on television watching. Second, the survey addresses issues concerning the students' school and home environments and information concerning family decision-making processes pertaining to television. As such, this dataset provides considerable insight into the interconnection of families' demographic characteristics and parental involvement strategies, as they may potentially affect students' academic performance.

The NELS Sample

In order to obtain a nationally representative sample of students, a two-stage cluster sampling design was used with schools as the primary sampling unit and students as the secondary-sampling unit. A sampling frame of U.S. public and private schools in the United States was sorted into combinations of school type and geographic region. Next, regions were sorted by urban, suburban, and rural location. Within these regions, schools were sorted by their estimated eighth grade enrollment. Schools were then selected into the sample from each region, with the probability of school selection proportional to the school's estimated eighth grade enrollment. All analyses are weighted using appropriate weights and are adjusted for a design effect as suggested in Ingles, et al (1994).

Three lists of eighth graders were obtained from participating schools: one of Asian students, one of Hispanic students, and one for all others. Then, random samples

were selected from each of the three lists. A school representative identified any student who should be excluded from the sample due to mental or physical disability or limited English proficiency. The final list, or "school roster" was re-submitted, and an initial sample was drawn. The initial sample included approximately 26 students per school (N = 1,052) with an average of 24 regularly sampled students. Weights were calculated to compensate for the oversampling of minority students and to compensate for student non-response. Third, the oversampling of African American students allows me to test for differences in estimated effects within and across African American and White students.

Sample for Current Study

A total of 24,599 base-year respondents completed a base-year questionnaire. However, the number of respondents used in this analysis is smaller. The current study used two subsamples from the NELS:88-90. Only student respondents who identified themselves as African American or White are included in this study. The eighth grade subsample contains 18,706 students who completed the base year survey, had a parent survey completed in grade eight and had a reading test score for grade eight. This is the primary subsample and is used in analyses testing television watching and eighth grade reading achievement. The sample breaks down as follows: White students, n = 15,695 and African American students, n = 3,011.

The tenth grade subsample comprises the eighth grade students who participated in the tenth grade survey, had parent surveys completed in the eighth grade, and had reading tests for eighth and tenth grade. The following sample sizes apply to the two tenth grade groups: White students, n = 12,971 and African American students, n = 1,417.

Attrition

A total of 24,599 base-year respondents completed a base year questionnaire. The number of respondents used in this analysis, however is smaller because I examine only African American and White respondents who completed reading achievement tests in the base year (1988) and the first follow-up (1990). In the first follow-up, respondents were administered dropout or student questionnaires only after their school status was assessed and double-confirmed by the National Opinion Research Center (NORC). If a person was not administered a questionnaire at the first follow-up, they were "out-of-scope" (e.g., deceased or moved out of the United States), or they attrited from the data set. Overall, 77% the 1988 base year students completed the first follow-up survey in 1990. This attrition rate is better than most comparable data sets, and sampling weights constructed for the first follow-up help the dataset to remain nationally representative (Ingels et al., 1992).

Any reduction in sample size however raises the inevitable question: Are the persons excluded from the analysis different from those who are included? Table 2.2 reports the mean and proportions for the base year sample and first follow-up sample for African American and White respondents.

Missing Data

One issue that arises with missing data using the NELS:88-90 dataset stems from the different survey instruments students and parents completed during each wave of data collection. For instance, all students received the same survey instruments during the base year—a basic questionnaire and an achievement test—but not all students who answered the basic questionnaire completed achievement tests. In addition, students'

parents also completed survey instruments during the base year that document students' learning and home environments, behavior, and school characteristics. During the first follow-up interviews, students answered a basic questionnaire, a supplement if they were a newly sampled respondent, and a supplement if they dropped out of high school. They also completed achievement tests. Parents were not surveyed again.

This method of collecting information from respondents creates various combinations of missing values in any multivariate model using data from different waves or different survey instruments. Some analyses also include information based on the base year parent questionnaire, tenth grade student survey instruments, and eighth and tenth grade achievement tests.

MEASURES[1]

The variables needed to measure the relationship between television watching and reading achievement are present in the data set, as are variables hypothesized to mediate the relationship between these two variables. Below is a discussion of the variables from the NELS:88-90 data sets that I use for my analyses.

Television Watching

The amount of television a student watches is based on responses in 1988 about the amount of television a respondent watched on a weekday. Television watching is operationalized differently in analyses predicting television watching and in analyses

[1] Although the samples used in analyses differ slightly, there is little variation in descriptive statistics produced using different samples for multiple analyses. Thus, only one set of descriptive statistics- for the 18,706 African American and White respondents who completed the 1988 and the 14,322 African American and White respondents who 1990 surveys-is presented in Table 2.2.

predicting academic achievement. In models predicting television watching, I focus on heavy amounts of television watching because research has shown that this is the level at which television watching begins to affect academic achievement (Comstock, 1999). A dummy measure of heavy watching over four hours of television per school day is used, coded as 1 for heavy-watcher and 0 for non heavy-watcher. When I analyzed academic achievement, a series of dummy variables signifying the amount of television watched were operationalized as follows. When estimating eighth and tenth grade achievement, a series of dummy variables representing never, light *(up to two hours of television watching a day)*, medium *(two to four hours of television watching a day)* and heavy watching *(over four hours of television a day)* are used with heavy watching used as a reference categories.

Reading Achievement

The second dependent variable that is used in this study is a measure of student achievement on the reading achievement tests. These tests were administered by NCES to each student in grades eight and ten as part of the survey. The reading comprehension exam (21 items, 21 minutes) consisted of five short passages followed by comprehension and interpretation questions. While there was but one version of the base year test, during the first follow-up, six forms of the cognitive reading test were produced in the first follow-up, each comprising a different combination of reading difficulty levels. Each student's test form was determined by his or her scores on the base year reading tests. This type of testing is based on Item Response Theory (IRT), which guards against ceiling and floor effects. This adaptive approach tailors the difficulty of the reading test

to the ability of the respondent, thereby leading to a more accurate measurement than a single level design (Ingles, et al., 1994). Models estimating 8th grade reading achievement use test scores from grade eight as the dependent variable. The IRT scores were designed for use in lagged models and approximate the students' growth in reading score between grade and eight and ten.

Family Context

The central purpose of this study is to evaluate the family context in which television watching takes place for African American and White students and its association with adolescent television watching and reading achievement. Measures of family context include both family background characteristics and parental involvement. While in some studies these variables are used as controls, this study uses these measures as key determinants to how television is used within African American and White homes.

Family Background Characteristics

Conceptualizing family background characteristics as an integral part of family context stems from the consistent finding that background characteristics have a significant association with the amount of television student's watch and with academic achievement (Medrich, 1979; Bower, 1985; Comstock and Paik, 1991). The background characteristics are measures from the first year of study and the include family income, parents' highest education, gender, family structure, and mother's employment.

A consistent finding in the literature is the link between family income and the amount of time spent watching television and academic achievement. Students in the highest income brackets watch less television than those in the lower income brackets

(Mediamark Research, Inc, 1996). Family income has also been consistently found to be associated with academic achievement for both groups of students. Dummy variables were created to detect non-linearity in the relationship between family income and reading achievement. A series of dummy variables were created with less than $15,000 as the reference category. These categories are disaggregated based on the finding by Orange (2000), that African Americans with lower levels of income spend more time watching television.

For African American families, parental education has been found to be unrelated to the amount of television watched by students. On the other hand, among White families, parental education is reported to be inversely associated with the amount of time students spend watching television (Comstock and Scharrer, 1999). As a result of these findings, parents' highest education will be accounted for in this study. In NELS:88-90 parental education is a composite variable, however, for this analysis it is recoded into a series of dummy variables using high school diploma as the reference category.

Gender of the respondent is used as a control variable in the analysis. While males and females generally watch the same amount of television, males are more likely to score higher on achievement tests. A dichotomous variable is created, with female as the reference category.

Family structure is accounted for because children from single parent families tend to watch more television than children who live with both parents (Comstock and Scharrer, 1999). Academic achievement varies by family structure as well. Students from intact families are likely to score higher on standardized tests than students from single parent families. Family structure is recoded to include five dummy variables with

students living with both of their biological or adoptive parents used as the reference category.

The association between mothers' employment status and the amount of television student's watch is complicated. Students with highly educated, employed mothers tend to be heavier watchers than students of highly educated, stay at home mothers. For example, students of working mothers who are enrolled in an after-school program rather than at home, often watch less television than students of mothers not in the work force. Thus, maternal employment is assessed in this study and was coded as a series of three dummy variables, with full-time serving as the reference category.

Parental Involvement Measures

The second dimension of family context is parental involvement as it specifically relates to television in the home. Conceptualizing parental involvement as a significant facet of family context is an attempt to capture some dimensions beyond the impact of family income and parents' education. Children encounter television within the home's physical and social environment (Van Evra, 1990). The degree, to which television is available within the home, actions parents take in their child's life as it relates to television watching, could likely influence the amount of television hours watched. Parental involvement is captured with five measures; after school supervision, limitation of television watching, rules about the type of programs watched, rules about watching television on a school night, and parental aspirations about the educational attainment of their child.

Students who spend several hours at home alone are likely to watch more television than students who do not spend time alone without supervision. Students, who

are cared for by babysitters, while their mother is working, may watch more television than those of stay at home mothers (Huston and Wright, 1989). Hence, the amount of television watched by students may not be determined by whether they're supervised, but also by the regulations established by parents. In order to assess adult supervision students were asked the following: "On average, how much time do you spend after school each day at home with no adult present?" Responses to this item are recoded into five dummy variables, with spending no time alone at home without adult supervision used as the reference category.

Students were queried about the extent to which television watching was regulated in their home. Regulation of television is associated with less time spent watching television (Wright et al., 1991). In assessing limitation of television, students were asked, "How often do your parents or guardians limit the amount of time you can spend watching television"? Limit television using four dummy variables, is assessed, using never limit as the reference category.

Having rules about the amount of time watched and content of programs are associated with fewer hours spent watching television (Kotler et al., 2001). Students were expected to vary somewhat in regards to parental regulation (or rule setting) of television watching. For this reason, rules about types of programs watched and amount of television watched were included. Both measures are dichotomous variables indicating whether the student had rules set by their parent about the type of programs they watched or not and whether parents had rules about amount of time their child could spend watching television on a school day or not.

The last parental involvement measure that I accounted for in my analyses is parental educational aspiration for their child. Because education continues to be an important predictor of socioeconomic status in the United States, it is important to assess aspirations that parents have for their children. Parents were asked, "How far in school do you expect your eighth grader to go?" In this study, parental expectation is a continuous variable on a 12 point scale, with the coding as follows: 1) less than high school diploma, 2) GED, 3) high school diploma, 4) less than a year at a vocational, trade or business school, 5) one to two years at a vocational, trade or business school, 6) two or more years at a vocational, trade or business school, 7) less than two years of college, 8) two or more years of college, 9) finish a two year program, 10) finish a four or five year program, 11) earn a master's degree, and 12) earn a graduate or advanced degree.

After School Activities

The most common explanation for a negative relationship between television watching and academic achievement is the displacement hypothesis, that is, television watching displaces activities that are educationally more valuable (Gaddy, 1986). With this hypothesis, after school activities should have a negative association with television watching. Further, television watching will likely have a negatively estimated impact on reading achievement because students will spend less time reading for pleasure and doing homework. These two activities have been found to enhance reading achievement. To test this important hypothesis using longitudinal data, I have included two measures that the literature has repeatedly suggested are associated with the relationship between television watching and reading achievement: reading for pleasure and time spent on English homework (Hornik, 1981; Gaddy, 1986; Keith, 1986).

Leisure reading is measured by responses to a single item asking how much additional reading do you do each week on your own not in connection with schoolwork? It is a continuous variable with six categories, 1) none, 2) one hour or less, 3) two hours, 4) three hours, 5) four to five hours, and 6) six or more hours. The amount of English homework is derived from responses to a single item asking students to indicate "how much time they spend working on their English homework per week?" The measure ranged from 1) none, 2) less than one hour, 3) one hour, 4) two hours, 5) three hours, 6) four to six hours, 7) seven to nine hours, and 8) more than 10 hours.

English Grades

Finally, eighth grade English grades are included in analyses that estimated reading achievement to control for prior achievement. Research has suggested that grades are correlated with test scores (Muller, 1993; Comstock and Scharrer, 1999). Grades are also associated with other variables of interest (television watching and parental involvement) therefore are accounted for in this study to properly estimate the other relationships. Students were asked to select which grade best described their grades from sixth grade up until the time of the survey. The measure is categorical and ranged from 1) mostly A's, 2) mostly B's, 3) mostly C's, 4) mostly D's and 5) mostly below D's.

Selection Bias and Longitudinal Sample Attrition

As stated previously, the NELS:88-90 dataset consists of student responses to survey instruments administered at two time points and achievement tests given at two time points. Parents, teachers, and school administrators completed additional surveys. In analyses presented here, only data from student, parent instruments and reading achievement test are analyzed. All students who identified as African American or White

(non-Hispanic) are included in the first two cross-sectional analyses; however, any African American or White student who did not have a reading test on record for the base year was automatically excluded from the third, longitudinal analysis. Sample weights and reported design effects do help account for selection bias.

Analytic Procedures

The sections that follow provide a chapter specific description of the analytical approach I took in analyzing television watching and reading achievement. I begin with the NELS:88-90 base year of eighth grade students to provide a context for understanding my analysis of television watching. I next examine NELS:88-90 base year of eighth graders by analyzing middle school reading achievement. I end my analysis with an examination of how television watching is connected to reading achievement, and how the family context influences the amount of hours students spend watching television. In all analyses I focus primarily on differences within African American and White group but where significant, I identify differences across African American and White students.

Chapter 3

Chapter 3 is an analysis of the NELS:88-90 base year African American and White sample of eighth grade students and television watching. I focus on the factors that predict watching a heavy amount of television for both groups. Particular attention is paid to the role of family context (background characteristics and parental involvement), and after school activities.

I begin by investigating how family context (background characteristics and parental involvement) and after school activities predict whether or not students watch a heavy amount of television. A dichotomous variable of heavy amount of television or

not is used because research has suggested that watching heavy amounts of television is deleterious to achievement. Logistic regression is used in this analysis because it predicts the relationship between the independent variables and a dichotomous dependent variable.

A primary goal of my study is to examine which family context measures are associated with television separately for African American and White students; therefore I estimate separate models for White and African American students. This method focuses on the statistical relationship between the independent and dependent variable for each racial group but does not allow for direct comparison of coefficients between groups. In addition to estimating the models separately, I also estimate the models for the combined African American and White sample with race and family context interactions. This estimates whether specific coefficients are significantly different across the two groups (See Appendix A).

The analyses in Chapter 3 provide a context for understanding how television watching is associated with reading achievement that follows in the next two chapters. It addresses the factors associated with being a heavy television watcher for African American and White students. During every stage of analysis, I use a series of models that incorporate control variables associated with television watching and academic achievement. In Chapter 3, three models are used to predict the amount of television watching in the eighth grade. The first is a basic model of prediction of heavy watching based on family income. The second includes parental education, gender, family structure and maternal employment. The third model includes parental involvement, after school activities and English grades. This model allows for the investigation of the

ways that the amount of television watching is used and perceived separately in the homes of African American and White students.

Chapter 4

In Chapter 4, I begin my analysis of middle school reading achievement using the NELS:88-90 base year sample of African American and White students. This cross-sectional analysis allows me to examine, using more complex methods, the general finding that television is negatively associated with academic achievement. I build on this previous finding by examining television watching and middle school reading achievement by specifically investigating within group differences of African American and White students.

I begin with an analysis of the amount of television hours watched on reading test scores. I present three separate ordinary least squares (OLS) regression on reading achievement test scores. This indicates how the amount of television hours watched may be associated with reading test scores. I next control for family background characteristics to determine what role they play in the relationship between the amount of television watched and estimating reading test scores. Finally, to assess differences in family context, parental involvement, after school activities and prior achievement, I estimate reading test scores for African American and White students.

Chapter 5

In the final stage of this study, presented in Chapter 5, I use OLS regression models to examine longitudinally how television watching, family context, after school supervision and prior achievement are related to high school reading achievement. I begin with a baseline model of achievement in the tenth grade that includes the amount of

hours of television watched. In the Model 2, I address what role family context (background characteristics and parental involvement) plays in the relationship between television watching and tenth grade achievement. Model 3 assesses the role of parental involvement and English grades. The full model accounts for prior achievement, by including 8th grade IRT reading test scores.

Once baseline relationships between family context and television watching are established, more extensive nested models were used to estimate reading achievement in Chapters 4 and 5. The first model in these analyses presents basic relationships between respondents' eighth grade television watching patterns and reading achievement. Additional models gradually include variables representing family background characteristics, parental involvement, after school activities, English grades and prior achievement, to paint a picture of how race and family dynamics combine relate to the context in which television is watched and academic achievement. As I stated earlier, at every stage of analysis, variations in relationships by race are tested using separate models and combined models with interactions.

TABLE 2.1: NUMBER OF SAMPLE MEMERS IN ANALYSES*

Outcomes predicted	n
In Chapter 3:	
Amount of Television Hours Watched	
African Americans	3,011
White	15,695
In Chapter 4:	
8th Grade Reading IRT Score	
African Americans	3,011
White	15,695
In Chapter 5:	
10th Grade Reading IRT Score	1,417
African Americans	12,971
White	

**Source*: The National Education Longitudinal Study:1988 (NELS:88-90)

TABLE 2.2: DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSIS

Variables	African American Base Year (N= 3,011)	African American First Follow-Up (N= 1,417)	White Base Year (N=15,695)	White First Follow-Up (N=12,971)
	Mean (SD)			
8th Grade Reading IRT Test Score	22.10 (7.358)	22.74 (7.640)	28.14 (8.658)	28.76 (8.583)
10th Grade Reading IRT Test Score	25.424 (9.279)	25.431 (9.380)	32.064 (9.935)	32.361 (9.901)
Parental Expectation about Educational Attainment	4.854 (3.110)	4.358 (3.162)	4.567 (2.847)	4.183 (2.661)
Time Spent on English Homework	1.620 (1.106)	1.623 (1.104)	1.739 (1.305)	1.739 (1.296)
Leisure Reading	1.634 (1.300)	1.623 (1.104)	1.85 (1.531)	1.86 (1.514)
English Grades	3.846 (0.946)	3.895 (0.942)	3.986 (0.927)	4.047 (0.901)
	Percentage			
Number of TV hours in 8th grade				
Never watch television	3.5	2.8	3.8	2.98
Light watchers	18.2	17.4	35.1	34.6
Medium watchers	33.9	35.2	40.6	41.8
Heavy watchers	44.4	44.6	20.5	20.6
Family Income (1987)				
less than $15,000	14.4	13.0	6.3	5.6
$15,000 to $24,999	20.4	18.9	16.2	15.9
$25,00 to $34,999	13.9	15.6	18.9	19.5
$35,000 to $49,999	9.8	9.8	22.8	23.5
$50,000 to $74,999	7.2	8.3	16.3	17.3
$75,000 to $99,999	1.6	1.5	5.1	5.1
More than $100,000	0.9	1.0	7.5	7.3
Parents' highest educational level				
Less than High School	15.2	15.2	5.8	4.7
High School Diploma	22.5	21.7	19.5	18.7
Some College	46.5	47.3	39.8	41.0
College Graduate	8.1	7.8	17.3	17.6
Master's Degree	5.6	6.6	10.9	11.3
Advanced Degree	2.1	1.4	6.7	6.7
Gender				
Male	48.9	47.5	50.0	49.8
Female	51.1	52.5	50.0	50.2

TABLE 2.2: DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSIS

Variables	African American Base Year (N= 3,011)	African American First Follow-Up (N= 1,417)	White Base Year (N=15,695)	White First Follow-Up (N=12,971)
	Mean (SD)			
Family Structure in 8th Grade				
Intact (Biological or adoptive)	40.0	43.6	69.6	72.8
Lives with parent and step parent	14.2	12.9	13.2	12.1
Lives with mother only	35.5	33.6	12.8	11.2
Lives with father only	2.2	2.6	2.6	2.4
Lives with another family structure	8.1	7.6	1.9	1.5
Maternal Employment in 8th grade				
Full Time Employment	71.5	68.8	58.6	56.1
Part Time Employment	8.3	9.4	19.8	20.0
Stay at Home Mother	9.2	10.2	21.6	20.4
Lack of Adult Supervision				
None	16.6	15.6	12.1	11.1
Less than 1 hour	27.8	28.6	34.6	35.7
1-2 hours	23.5	23.9	28.9	29.7
2-3 hours	12.3	12.6	12.7	12.5
Over 3 hours	19.8	19.4	11.7	11.1
Limit Number TV Hours				
Often	33.4	38.8	14.5	35.5
Sometimes	42.1	11.9	23.4	13.2
Rarely	21.5	24.1	58.6	22.9
Never	3.0	23.3	3.5	27.9
Rules about Television Use				
Rules a/b Types of TV Programs	74.4	72.1	71.9	70.4
Rules a/b TV on School Day	79.1	77.1	62.5	58.3

Chapter 3: Black and White Television

INTRODUCTION

Television watching has become a dominant cultural force in American life since the mid-1950s. Although there has been a great deal of research devoted to understanding the consequences of television watching, much of what we know about children's television use is based primarily on samples of primarily middle- to upper-middle class White children (Huston & Wright, 1997; Singer & Singer, 2001). This remains so despite indications that there are differences among ethnic groups in the amount of television watched (Blosser, 1988; Roberts, Foehr, Ridewout, & Brodie, 1999) and the meanings attributed to television watching (Abarram & Umphrey, 1993; Greenberg & Brand, 1994). As with much social science research, existing studies have generally examined differences in the amount of television watching by race, but this adds little to our understanding of how the relationship between race and family context may lead to differing processes that determine television watching.

Using a nationally representative sample of eighth grade students, I examine which characteristics of family context predict the amount of time they spend watching television. Further, I examine whether the family context of television watching is different for White and African American students. I contend that differences in the importance of specific family context variables originate from the different functions television serves for different racial groups. Although I document differences among the two groups, my main interest lies in examining the magnitude of the relationships among

family background characteristics, parental involvement and after school activities within each group.

The amount of television watched by children is consistently related to their race (Bickham, 2004). African American children have been found to spend between 1.5 and 2 times longer watching television than White students, and they watch more television during the school day, in the afternoon, and in the evening (Roberts et al., 1999). Additionally, African Americans also believe that television is more real, find television more enjoyable and hold more favorable attitudes toward television (Huston et al., 1992). Early evidence showed that children from low-income families watch more television than those from more affluent families. Because African American children are more likely than White children to be from low-income families, they may be more likely to watch more television (Cook et al., 1975).

Parental socioeconomic status is inversely correlated with the amount of hours students watch television (Van Evra, 1996). Children in families in which the adults have relatively low education, occupational status, and family income watch more television than children in families with higher levels of socioeconomic status (Roberts et al., 1999). African American children generally watch more television than White students at the same socioeconomic level (Brown et al., 1990; Tangeny and Feshbach, 1988). Medrich et al. (1982) found that for White families, both mother's educational attainment and family income were inversely correlated with the amount of viewing. In contrast, among African American families, neither mother's education nor family income was correlated with the amount of television students watched.

Variations in parental involvement may also be associated with television watching. Parents influence television watching in significant ways by their attitude, their regulation and/or mediation, and their own viewing habits. In homes where children are provided a range of learning opportunities and supportive experiences with adults, students watch less television than do children in less supportive home environments (Huston, Wright, Marquis, et al., 1999).

In summary, previous research indicates that race, family background characteristics, and parental involvement are related to television watching among students. There have been studies that have examined differences in television watching by race, but a less investigated question is whether the patterns of association between of the amount of television watched *within* each group are similar or different. Therefore, I specifically address the following questions: Are family background characteristics associated with the amount of television watched in the same way for African American students and White students? Is parental involvement associated with amount of television watched in the same direction for African American and White students? How do after school activities predict the amount of television African American and White students watch? While these are exploratory questions, there is evidence from the research to make a specific hypothesis. I hypothesize that overall measures of family context will be less powerful predictors of amount of television watching for African American students than for White students.

In order to explore the amount of television watched by African American and White students, I use three logistic regression models which account for the family

context in which television occurs and the student participation in after school activities to predict whether students watch a heavy amount of television in the 8th grade.

ANALYTIC APPROACH

I use logistic regression to assess which family context measures are associated with watching a heavy amount of television. Family context is measured by family background characteristics and parental involvement. These measures are described in detail in Chapter 2. Heavy television watching is operationalized as a dummy variable measured as either *watching four or more hours of watching television* on a weekday or watching less than that. The major purpose of this analysis is to examine similarities and differences in factors associated with television watching within groups, therefore logistic regressions were conducted separately for African American and White students.

A consistent finding in television research is the relationship among television viewing, race, family income, parental education and family structure. The first regression is a baseline model of television use on family income. I begin with a model of income because it continues to be one of the major sources of advantage and disadvantage in our society. The second model includes parents' education, gender, and maternal employment. In the final model, I include measures of parental involvement, after school activities and prior achievement. Again, a primary goal of my study is to examine which family context measures are most significantly associated with television within each group, therefore I estimated separate models for African American and White students. This method examines within group differences, but does not allow for comparisons across groups. Therefore, in addition to running the models separately, I

also ran the same models on the combined sample and included interactions for African American students with the family context measures (see Appendix A). The interaction term allows me to assess whether specific coefficients are significantly different across the two groups.

Amount of Television Hours Watched

The results from Model 1 are shown in Table 3. Previous research suggests that lower levels of income are associated with a higher likelihood of watching a heavy amount of television. This is not always the case for African American students in this study. An African American student whose family income is $15,000 to $24,999 has 1.26 higher odds of being a heavy television watcher than an African American student whose family income is less than $15,000 annually.[2] Interestingly, in the same way, there is no statistically significant difference in the odds of being a heavy television watcher between African American students whose family income is $25,000 to $34,999 and African American students whose family income is less than $15,000. However, as family income reaches $35,000 or more, African American students are less likely to be a heavy watcher. For instance, the odds of being a heavy television watcher for African American students when the family income is $35,000 to $49,999 are 28 percent lower than for African American students whose parents earn less than $15,000. Again, the odds of being a heavy television watcher for African American students when the family income is over $100,000 are 37 percent lower than for African American students whose parents earn less than $15,000.

[2] African American students who have a family income 15,000 to 24,999 have 1.27 [exp (.24)] odds of being a heavy television watcher. In logistic analysis, positive coefficients of logistic models are exponentiated to determine the odds for each variable.

On the other hand, results for White student indicate that higher levels of family income are associated with lower odds of watching a heavy amount of television for White students but a slightly different pattern appears for African American students. As family income level increases, the odds that a White student will be a heavy television watcher decreases compared to a White student with a family income of less than $15,000. For example, the odds of being a heavy television watcher for a White student whose family income is $15,000 to $24,999 is 19 percent lower than the odds for a White student whose family earned less than $15,000.[3] Further, the odds of being a heavy television watcher for a White student when the family income is over $100,000 are 77 percent lower than for White students whose parents earn less than $15,000. As shown in (see Appendix A) pooled models with interaction terms, these race differences are statistically significant.

In Model 2, parents' highest education, student's gender, family structure and maternal employment were included. Similar to family income, a consistent finding in the literature posits a linear relationship between parental education and television watching. Children of better-educated parents watch less television. This linear association was not found for African American students. For example, an African American student whose parent has taken some college courses has higher odds of being a heavy television watcher by a factor of 1.07 than an African American student whose parent has a high school diploma. Likewise, an African American student whose parent has a college degree has higher odds of being a heavy television watcher by a factor of

[3] The odds of being a heavy television watcher are lower than not being a heavy television watcher by a factor of exp (-0.215) or 1-.806 = .19 (19 percent). Negative coefficients of logistic models are first exponentiated and then subtracted from one to determine lowered odds.

1.14 than an African American student whose parent has a high school diploma. Results for African Americans whose parents earned a graduate degree did support previous studies, that is, having well educated parents is associated with a lower likelihood of being a heavy television watcher. The odds of being a heavy television watcher for an African American student whose parent has an advanced degree are 65 percent lower than an African American student whose parent has a high school diploma.

There is a linear association between parents' highest level of education and a lower likelihood of watching a heavy amount of television for White students. As the educational level of a White student's parent increases, the odds that a White student will be a heavy television watcher decrease. For example, a White student whose parent has less than a high school education has higher odds of being a heavy television watcher by a factor of 1.24 than a White student whose parent has a high school diploma. On the other hand, the odds of being a heavy television watcher for a White student whose parents have a college degree are 36 percent lower than a White student whose parent has a high school diploma. Similarly, the odds of being a heavy television watcher for a White student whose parent has an advanced degree are 53 percent lower than a White student whose parent has a high school diploma. The interactions of race and parents' education indicate that there are significant differences across the groups in the odds of being a heavy television watcher at each level of education except for advanced degree (see Appendix A).

During adolescence, males and females generally watch a similar amount of television (Huston et al, 2001). African American males in this study were less likely to be heavy television watcher compared to African American females, by a factor of 15

percent lower odds. Findings for White students indicate that males were more likely to watch a heavy amount of television than females. The odds of being a heavy television watcher for White males are .85 times higher than White females.

Family structure was also associated with being a heavy television watcher for African American students and White students, but the pattern of association is quite different. For instance, African American students living in intact families have the lowest odds of being a heavy television watcher compared to all the other forms of family structure. African American students who live in a step family have odds of being a heavy television watcher that are 1.16 higher than African American students who live in an intact family. Likewise, African American students who live with a single mother had odds of being a heavy television watcher that are 1.25 times higher than the odds of African American students who live with both parents.

White students who live with a parent and step parent have lower odds of being a heavy television watcher by 4 percent compared to White students who live with both parents. At the same time, the odds of being a heavy television watcher for White students living with a single mother are slightly lower by 2 percent compared to White students who live with both parents. However, White students who live in a household other than with at least one parent have odds of being a heavy television watcher that are 1.20 times higher than White students who live both parents.

Maternal employment was included in the model and for both groups of students; having a mother who worked full-time outside the home was associated with a higher likelihood of watching a heavy amount of television. The odds of being a heavy television watcher for an African American student whose mother worked part-time or

not all are lower by 13 and 40 percent respectively, than African American students whose mother worked outside the home full-time. Similarly, the odds of being a heavy television watcher for a White student whose mother worked part-time or not at all are lower by 14 and 13 percent respectively, compared with a White student whose mother worked full-time outside the home.

The full model presented in Model 3 includes measures of parental involvement and after school activities to examine what actions parents take that may predict the amount of television hours a student watches. First notice that for African American students, lack of adult supervision after school is not statistically significant with the amount with television watched. On the other hand, results show that in general, White students who spend over two hours at home without adult supervision after school are more likely to be heavy television watchers. It is interesting to note that White students who spend less than one hour without adult supervision are less likely to be heavy television watcher than students who do not spend any time without adult supervision. The odds of being a heavy television watcher for a White student who spends less than one hour without adult supervision is 24 percent lower than the odds for a White student who does not spend any time without adult supervision after school. Further, White students who spend two to three hours or more than three hours without adult supervision after school have higher odds of being a heavy television watcher by a factor of 1.26 and 1.44 respectively, compared to White students who do not spend any time without adult supervision after school. This last finding is consistent with the previous research that television might serve as a babysitter for “latch key” students.

On the whole, when parents limited the amount of hours watched, White and African American students were less likely to watch a heavy amount of television. A similar pattern of association appears for both groups, but the association is not as strong among African American students. For example, when African American parents placed limits on the amount of television watched, African American students had lower odds of being a heavy television watcher. African American students whose parent often put limits on the amount of television watched had lower odds of being a heavy television watcher by 8 percent than African American students who never had television limited. In the same way, African American students whose parent sometimes put limits on the amount of television watched had lower odds of being a heavy watcher were 39 percent than African American students who never had television limited.

The odds of being a heavy television watcher for a White student who had television limited often were 70 percent lower than a White student who never had television limited. Similarly, when White parents sometimes put limits on the amount of television watched odds of being a heavy watcher were 61 percent lower than White students who never had television limited.

Model 3 also indicates that White parents with high educational aspirations for their child had students who were less likely to be heavy television watchers. This relationship between educational aspirations and television watching was not statistically significant for African American students.

Lastly, to assess the displacement of other activities a list of variables were included in the model. The number of hours spent on English homework was the only after school activity that was statistically related to watching a heavy amount of

television. For both groups, spending time on English homework was associated with lower odds of being a heavy television watcher. African American students had 13 percent lower odds and White students had 10 percent lower odds of watching a heavy amount of television. The interaction term for African American student and English homework (not shown) suggests that African American students who spend more time on their homework are less likely to be a heavy watcher compared to White students who spend more time on their homework.

SUMMARY

This analysis was designed to examine which family context factors were associated with watching a heavy amount of television for White and African American students. The overall results presented in this chapter indicate that measures of family context, *dictated by race*, are associated with students' patterns of television watching. As hypothesized, the traditional measures of family context were less powerful predictors of heavy television use for African Americans. While these findings show similar trends, there are several key differences in patterns of associations between family context and television watching for White and African American students.

A number of family background characteristics were found to be related to student's television watching for both groups. First, family income may affect television watching in part because it provides resources to purchase or participate in more educationally beneficial activities than spending time watching television. For White students there was a linear association between family income and television watching. As family income increased the likelihood of being a heavy television watcher decreased. This pattern of association between family income and television remained for higher

levels of family income when I accounted for parental involvement and after school activities.

Recall that previous research has consistently found a linear association between family income and the amount of television watched. However, for African American students, there appears to be a curvilinear association. Working class African American students had the same or higher odds of being heavy television watchers compared to poor African American students. As family income rose over $35,000 for African American students, the odds of being a heavy watcher decreased. This relationship was explained when I accounted for parental involvement and after school activities.

Second, parents' education is an indicator for values and lifestyles that shape parents' own viewing patterns as well as the ways in which they encourage or regulate their children's television viewing. Well-educated parents watch less television than do adults with little education, so their children are likely exposed to less television. Findings from this study support previous studies that found higher levels of education by parents were associated with lower odds of watching a heavy amount of television for White students. The association between lower levels of education and television watching is explained when parental involvement and after school activities are included in the model.

There is not a linear relationship between family income and television watching for African American students. African American students whose parents had taken some college courses or had a college degree were more likely to be heavy watchers than African American students whose parents had a high school diploma. However, African

American students with highly educated parents were less likely to be heavy television watchers.

The type of family structure in which a student lived was a significant predictor of heavy watching for both White and African American students. White students who lived in intact families were more likely to be heavy watchers than White students who lived in step and single parent families. In the full model when parental involvement and prior achievement was included, the relationship between family structure and television watching became insignificant. As for African American students, living in an intact family was associated with a lower likelihood of being a heavy watcher compared to all other forms of family structures.

Parents play an influential role in their children's viewing patterns. Supervision and regulation of time are the two main ways in which parents influence television watching for students. White students who spend less than two hours without adult supervision after school had the same or lower odds of being a heavy television watcher than a White student who did not spend anytime without adult supervision after school. Spending over two hours without adult supervision after school was associated with higher odds of being a heavy television watcher. Conversely, for African Americans, there was not a significant difference in the odds of being a heavy television based on the amount of time spent without adult supervision after school.

Limiting the amount of television a child watches was consistently associated with watching less television for White and African American students. For both groups, when parents limited the amount of television watched, students were less likely to be heavy television watchers.

Because it is commonly thought that television interrupts or displaces more educationally beneficial activities such as homework or leisure reading, I examined the relationship between after school activities and heavy watching. I found that increased time spent on English homework was associated with lower odds of watching a heavy amount of television for both White and African American students. However, I found no evidence that leisure reading is related to watching a heavy amount television for either group of students. Thus, it seems that if parents promote both academic activities and limit television use, they may teach their children that one activity does not have to displace the other.

Family context in general was less useful in explaining individual differences for African American students. One reason may be that television serves specific functions for African Americans across socioeconomic groups that may not be true for White students. Earlier literature suggests that African American youths and adults use television as a window to the world of the majority culture. They also consider African American characters, sports stars, and public figures on television as sources of ethnic identity and pride. These functions are likely to be independent of a particular socioeconomic or family characteristic. Therefore, it may be that factors in domains other than those included in this study might account for variations in viewing among African Americans more effectively. Further research is needed to discover the specific factors that account for variations in media use among African Americans.

Television occupies a large portion of time for both groups of students. Unlike other media, television watching patterns are established early and are reliable and consistent over time (Huston, 1999). The amount of time spent watching television by

young people has been an ongoing concern to many because of the negative effects associated with it. Given the central role that television has in the lives of most children, it is important to understand the potential positive or negative effects television may have on students. Chapter 4 will explore the role that television plays on reading achievement.

TABLE 3: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		**Model 2**		**Model 3**	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Background Characteristics						
1987 yearly family income (ref. less than $15,000)						
$15,000 to $24,999	0.237***	-0.215***	0.267***	-0.151***	0.237	-0.107
	(0.010)	(0.006)	(0.011)	(0.006)	(0.128)	(0.079)
$25,00 to $34,999	-0.015	-0.356***	0.077***	-0.228***	0.121	-0.161
	(0.012)	(0.006)	(0.013)	(0.007)	(0.151)	(0.081)
$35,000 to $49,999	-0.328***	-0.529***	-0.216***	-0.329***	-0.272	-0.276*
	(0.014)	(0.006)	(0.015)	(0.007)	(0.181)	(0.083)
$50,000 to $74,999	-0.257***	-0.732***	-0.051***	-0.401***	-0.175	-0.355***
	(0.015)	(0.007)	(0.018)	(0.008)	(0.212)	(0.094)
$75,000 TO $99,999	-0.770***	-1.075***	-0.537***	-0.603***	-0.202	-0.505***
	(0.035)	(0.011)	(0.038)	(0.012)	(0.395)	(0.145)
More than $100,000	-0.462***	-1.454***	0.116*	-0.915***	-0.61	-0.909***
	(1.058)	(0.013)	(0.056)	(0.014)	(0.697)	(0.153)

TABLE 3: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		**Model 2**		**Model 3**	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Parents' highest educational level in 8th grade (ref. High Sch Diploma)						
Less than High School			0.036**	0.214***	0.044	0.162
			(0.014)	(0.008)	(0.165)	(0.102)
Some College			0.075***	-0.133***	0.083	0.02
			(0.011)	(0.005)	(0.122)	(0.061)
College Degree			0.136***	-0.439***	0.021	-0.192*
			(0.018)	(0.007)	(0.205)	(0.082)
Master's Degree			-0.374***	-0.942***	-0.463	-0.634***
			(0.022)	(0.009)	(0.248)	(0.110)
Advanced Degree			-0.982***	-0.764***	-0.956	-0.53***
			(0.049)	(0.013)	(0.496)	(0.151)
Gender (ref. Female)						
Male			-0.162***	0.137***	-0.097	0.092*
			(0.008)	(0.004)	(0.095)	(0.047)
Family Structure in 8th Grade (ref. Intact)						
Lives with parent and step parent			0.151***	-0.038***	0.086	-0.112
			(0.012)	(0.005)	(0.145)	(0.068)
Lives with mother only			0.225***	-0.025***	0.194	-0.109
			(0.010)	(0.006)	(0.118)	(0.074)
Lives with father only			0.382***	-0.210***	0.119	-0.275
			(0.027)	(0.012)	(0.312)	(0.149)
Lives with another family structure			0.563***	0.181***	0.373*	0.022
			(0.016)	(0.013)	(0.191)	(0.158)
Maternal Employment in 8th grade (ref. Full Time)						
Part Time Employment			-0.136***	-0.156***	-0.099	-0.065
			(0.014)	(0.005)	(0.162)	(0.062)
Stay at Home Mother			-0.478***	-0.136***	-0.444**	-0.020
			(0.014)	(0.005)	(0.162)	(0.061)

TABLE 3: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		Model 2		Model 3	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Parental Involvement						
Lack of Adult Supervision (ref. None)						
less than 1 hour					-0.033	-0.272***
					(0.128)	(0.077)
1-2 hours					-0.070	-0.102
					(0.153)	(0.079)
2-3 hours					0.200	0.235**
					(0.174)	(0.089)
Over 3 hours					0.245	0.376***
					(0.158)	(0.089)
Limit Number TV Hours (ref.=Never)						
Often					-0.081***	-1.228***
					(0.157)	(0.093)
Sometimes					-0.493***	-0.952***
					(0.123)	(0.066)
Rarely					-0.409***	-0.422***
					(0.123)	(0.054)

TABLE 3: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		**Model 2**		**Model 3**	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Rules about Television Use						
Rules about the types of television programs watched					0.096	0.039
					(0.114)	(0.052)
Rules about watching television on school day					-0.206	-0.082
					(0.118)	(0.049)
Parental Aspirations about Educational Attainment						
Parental Expectation					-0.016	-0.051***
					(0.018)	(0.009)
After School Activities						
English Homework					-0.147***	-0.107***
					(0.044)	(0.019)
Leisure Reading					0.009	-0.015
					(0.037)	(0.016)
-2 LOG L	2786.340	1371.789	2786.391	1371.786	2792.032	1378.584

Chapter 4: Television Watching and Middle School Reading Achievement

INTRODUCTION

The dominance of television in American society over the past four decades cannot be understated. On average, Americans now spend well over four hours per day watching television (Huston et al, 1999). Because of the increasing amounts of viewing, researchers and parents alike have been concerned about its influence. One of the most heated debates has been over the influence of television on academic achievement. This is of particular concern because in American society education remains a primary determinant of socioeconomic status in adulthood.

In Chapter 3, I discussed how family background characteristics and parental involvement are possibly related to the amount of television hours watched. My findings support the hypothesis that family context may shape how television is used. I now explore the relation between television watching and reading achievement. How is it, that television watching could relate to reading achievement? And further, how does the family context shape the association for African American and White students? Prior research has generated several theories about the relationship between television watching and reading achievement, implicating several different mechanisms to explain whatever positive or negative association might exist.

The extant research on the relations between television watching and reading achievement typically has found a negative association between those variables. First, frequent television watching impairs many of the cognitive skills needed to learn and understand written text, including inference-making, control over attentional resources and the ability to remain seated for significant periods of time. These symptoms interfere with reading acquisition and general school readiness (Roberts, 1995; D. Anderson and P. Collins, 1983). A second theory purports that television is so attractive that it displaces reading and studying and that the reduced amount of reading practice and studying negatively affects grades and reading achievement (Potter, 1987; Hornik, 1981).

However, other theories have questioned the generalized assumption of a negative association between television and reading achievement. Some studies have found a positive association between television and achievement. First, television provides information to viewers who might otherwise not have access. No other medium of communication can bring the visual and audible work with such richness of detail. Second, television may compensate to some extent for the lack of diverse educational experiences and may increase school readiness, among children with limited educational opportunities and resources (Caldas and Bankston, 1999; Chen, 1994; Bianculli, 1992).

While there have been dramatic improvements in educational success over the past forty years, there continues to be a gap between African American and White students. According to the 2003 U.S. Census, 80 percent of African American students earned a high school diploma, whereas 85 percent of White students earned a high school diploma. African Americans' performance on high school standardized tests lags significantly behind their White counterparts (Caldas and Bankston, 1999).

In this chapter, I focus on the relationship between television watching and reading achievement among African American and White adolescents. This cross-sectional analysis allows me to re-examine, using more complex methods, the general assumption that television is negatively associated with academic achievement. I build on previous research by examining the family context of television watching and achievement, specifically investigating within group differences of African American and White students.

If television does have an influence on school performance, and because education is such an important predictor of socioeconomic status in the United States, it is important to consider *how* television watching may affect the academic achievement of African American and White students. This is especially salient for African American students because they watch much more television than any other racial or ethnic group. Therefore, I specifically address the following questions with special attention given to within group differences: How is television watching related to reading test scores? What role does family background play in the relationship between television watching and reading test scores? What role does parental involvement play in the relationship between television watching and reading test scores? What role do grades play in the relationship between television watching and reading test scores? This investigation provides new information about the factors related to television watching and how those factors differ by race.

I hypothesize that NELS:88-90 African American and White respondents will differ in their viewing patterns which has a significant influence on the family context in which students live. This in turn will influence how television watching is used and

perceived. Television is not watched in a vacuum; rather family context may serve to mediate the relationship between television watching and reading test scores.

ANALYTIC APPROACH

As I stated earlier, numerous studies have specifically examined television watching and academic achievement, however few have investigated the role of race, and fewer still have examined the interaction of race, television watching and reading test scores simultaneously. Both race and television watching are important to consider as I seek to understand what factors are associated with academic achievement for middle school students.

To address this issue, I first begin with a descriptive analysis of the average test score at each level of television hours watched by race. This provides an initial picture of the relationship between reading test scores and television watching. A plethora of studies have found a relationship between television watching and reading achievement. But, unlike my work many of these studies have not examined this relationship by race.

Multivariate regression analysis estimating 8th grade reading test scores follows the descriptive analysis. A series of three nested models is presented separately for White and African American students. As in Chapter 3, additional analysis with interactions of African American students with family context measures was conducted and can be found in Appendix B. I begin with a baseline model of how the amount of television hours watched is related to achievement. In the second model, I address what role family background characteristics play in the relationship between television watching and achievement. In the final model, parental involvement, after school activities and 8th grade English grades are included to examine the role they play in the relationship between television watching and reading achievement. Prior research has

suggested that grades and test scores are highly correlated; however the two measures are quite different (Muller, 1993). Therefore, the inclusion of English grades in the model allows for a comparison of the ways in which television watching influences test scores independent of grades. Exploratory analysis revealed that modeling grades separately added little new information, therefore to avoid redundancy, I accounted for English grades in the same model as parental involvement and after school activities.

Average Reading Test Scores

Figure 4.1 shows the descriptive analysis of the average reading test scores for African American and White students at each level of television watched. Here we see that for a given amount of television watched, the average test scores for White students are higher than those of African American students. Even more, the African American students who watch the lowest amount of television have a lower average test score than White students in the highest amount of television watched category. There is little variation in average test scores across the categories for African American students. The biggest difference in the average test scores across levels of television watching is 1.44 points and the relationship between television watching and test scores do not appear to be linear, while medium watchers have the highest average test score.

A very different picture of television watching and average test scores emerges for White students. Light watchers have an average reading test score of 30.11 followed by medium watchers with an average score of 28.47. Heavy watchers have the lowest average test score (26.04), while students who never watch television have a higher average test score at 28.97. Prior research suggests that lower amounts of television watching are associated with higher achievement. This is true here except at the never watch level. Never watch is higher than the medium watching. One explanation for the

discrepancy found here may be due to parenting strategies. For example, among White students the low test scores in the never category compared to medium watchers might suggest that these students are different and may have other problems to which parents are responding by restricting television use.

It is important to realize that other factors are not controlled in bivariate analysis. Nonetheless, the analysis provides an initial picture of racial differences in reading achievement by levels of television watching. These findings reveal a different relationship between reading test scores and television by race. A more detailed analysis is warranted to more fully understand how television watching is associated with reading test scores.

8th Grade Reading Test Scores

Table 4.1 shows three separate ordinary least squares (OLS) regressions on reading achievement test scores of the amount of television hours watched, background characteristics, parental involvement measures, after school activities and English grades included in models for African American and White students, respectively.

A consistent finding posits a negative relationship between watching a heavy amount of television and reading achievement (Hornik, 1981; D. Anderson and P. Collins, 1983; Potter, 1987; Roberts, 1995; Caldas and Bankston, 1999). While White students more accurately confirm past research with regard to the pattern of association between television watching and achievement, African American students do not. Model 1 indicates that the only category of television watching that was significant for African American students is for those African American students who watch two to four hours of television a day. African American students that report watching a medium amount of television earned 1.06 points higher on the reading test than African American students

who reported being a heavy watcher. The interaction of African American students and amount of television hours watched, shown in Appendix B, indicates that these differences in the amount of television hours watched and reading test scores are significant across White and African American students. African American students earn lower test scores than White students in each category of television watching.

Model 1 also indicates that the amount of television hours watched is associated with reading test scores for White students but a different pattern emerges. First, White students who reported that they never watched television earned 1.47 points higher on the reading test than those who reported being a heavy watcher. On average, White students who reported being a light watcher earned 3.37 points higher than White students who reported being heavy watchers. Finally, White students who reported watching a medium amount of television earned 2.38 points higher on the reading test than White students who reported watching a heavy amount of television.

Recall from Chapter 3, family background characteristics were significant predictors of heavy television use for both White and African American students. Of interest, then, is what happens to the association between television watching and reading achievement when family background characteristics are added to the model, shown in Model 2.

First, the inclusion of background characteristics reduced the association between White students watching a light and medium amount of television and reading test scores and explained the relationship for White students who never watch television and reading achievement. Among White students, the largest significant difference in reading test scores occurs for light watchers. Relative to White heavy television watchers, White light television watchers, on average, earn reading scores that are 1.98 points higher once

family background characteristics are included. White students who report being medium watchers earn 1.54 points higher than heavy watchers on the reading achievement test. Additionally, the coefficient for never watched television is no longer significant signaling that the relationship between never watched and reading test scores is explained by the inclusion of background characteristics.

Model 2 also shows that for African American students, who watch a medium amount of television no longer earn higher test scores when family background characteristics are included. Thus, family background characteristics explain the difference in test scores between African American students who watch a medium amount of television and African American students who watch a heavy amount of television. Interestingly, African American light watchers score significantly lower reading test scores than heavy watchers once family background characteristics were added. The interaction of race and amount of television hours indicate that African American students who watch a light amount of television earn lower tests scores than White students who watch a light amount of television.

Model 2 also reports the independent association to between family background characteristics and reading test scores for African American and White students. Research has consistently found that students whose parents have higher levels of income and education are more successful academically. The data seem to support this for African American students as we see family income and parental education are strongly associated with higher test scores. For example, as family income rises, African American students earn higher test scores. Similarly, African American students with a well educated parent earn higher test scores than African American students whose parents have a high school diploma. African American males earn lower test scores than

African American females. African American students who live with a single father score 3.16 points lower on the reading achievement test than African American students who live in an intact family.

The data also seem to support the linear relationship that has been consistently found in the literature between family income and parents' education and reading test scores for White students. For example, as family income level increases, White students earned, on average, significantly higher test scores than White students with lower levels of family income. Similarly, White students of a better educated parent earned, on average, significantly higher test scores than White students with a parent that had a high school diploma. Also White male students earn lower scores on the reading achievement test than White females. Several family structures measures were also related to reading achievement for White students. White students who live with a step family or live with someone other than parents earn lower reading test scores. On the other hand, White students who live with a single mother earn higher test scores than White students who live in an intact family. Finally, when White mothers work part-time, White students earn higher test scores than White students whose mothers work full-time outside the home.

What happens to television watching when all parental involvement, after school activities and grades are added to the model, shown in Table 4.1, Model 3? First, there was a slight reduction in the coefficient for the estimated effect between light television watching and reading achievement for African American students. African American students, who report watching a light amount of television, earn .88 of a test score point lower than African American students who report being a heavy television watcher. On the other hand, White students, when measures of parental involvement, after school

activities and English grades are included in the model, light and medium watchers earn higher test scores, but this amounts, substantively, to less than one point (.87 and .84 respectively). Once again, the interaction of race and light watching is significant (See Appendix B).

Model 3 also shows the independent associations of parental involvement, after school activities and English grades for African American students. First note, when examining lack of adult supervision in the home, limitation television hours (student report), rules about television use (parent report), lack of adult supervision after school was not significantly associated with reading test scores for African American students. On the other hand, parental limitation and regulation of television watching is associated with reading test scores for African American students. When television is limited African American students earned higher test scores and when rules were set about watching television on a school day, African American students earned lower reading test scores. Additionally, the higher educational aspirations an African American parent has for their child, the higher are the test scores their child earns. The more time African American students spent reading for pleasure the higher the test scores. Finally, English grades made a considerable difference in test scores for African American students. African American students who earned higher grades earned higher test scores.

There are several significant interactions between African American and parental involvement, and after school activities, however there does not appear to be an apparent trend nor do the interactions add to the understanding of the relationship between television watching and reading achievement.

Several forms of parental involvement were independently associated to reading test scores for White students. When White students spend over three hours without

adult supervision after school earn lower test scores than White students who never spend time without adult supervision. White students who spend over three hours without adult supervision after school scored 1.06 points less on the reading test than White students who do not spend any time without an adult present after school. Similarly, when television is limited, White students earn higher test scores compared to White students who never have television limited. On the other hand, when White parents set rules about television use on a school day, White students earn lower test scores compared to White students who did not have rules set. It appears that the student report of limiting television has a different meaning than the parent report of having rules. Furthermore, the higher educational aspirations a White parent has for their child, the higher are the test scores their child earns.

Recall that the displacement hypothesis purports that watching television displaces activities that are educationally more valuable. I therefore include time spent on English homework and reading for pleasure to re-examine, the general assumption that television is negatively associated with academic achievement. Spending time on English homework for White students was associated with earning .26 of a point higher on the reading test, while spending time reading for pleasure was associated with earning 1.24 points higher for White students. Lastly, English grades were controlled to understand what role grades play in the relationship between television watching and reading test scores. English grades were positively associated with reading achievement. White students who earned higher grades earned higher test scores.

SUMMARY

Despite research that points to both negative and positive theories about the relationship between television watching and reading achievement, there seems to be

almost a general assumption that television watching negatively impacts reading achievement. The findings in this chapter raise questions about this assumption. Previous studies that have focused on television watching and academic achievement have not accounted for racial differences. This approach tends to gloss over many possible differences between White and African American students as they pertain to the relationship between television watching and reading achievement.

As we review the overall findings in this chapter, it is apparent that there are significant racial differences in the association between television watching and reading test scores. First and foremost, watching a heavy amount of television is always negatively associated with reading test scores for White students. At the same time, the amount of television hours watched is almost always *not* significantly associated with reading test scores for African American students. Family background characteristics explained the association between medium watchers and reading achievement for African American students. On the other hand, parental involvement efforts by White parents explained some of the positive association between the amount of television hours watched and reading achievement. These findings point to an important contradiction in the literature that has generally associated heavy amounts of television use and lower achievement. This further highlights the importance of conceptualizing race as more than just a control but rather as a potentially significant aspect of family context.

The family context in which television occurs is independently related to test scores but in different ways for African American and White students. Overall, African American students earn lower test scores than White students, however different family background characteristics are associated with test scores for African American and White students. Although there were no significant differences in family background

characteristics across groups, the pattern of associations within groups were different. Family income was positively associated with test scores for both groups, as family income increased, students test scores increased. African American students who have a parent with at least a college degree earned higher reading test scores. For White students, a continual increase in parents' education is associated with reading test scores. African American students who live with a single father earn lower test scores than African American students who live in an intact family. White students that live in a step family or with a single father earn lower grades than White students that live in an intact family, at the same time, White students who live with a single mother earn higher grades than White students who live in an intact family. Finally, maternal employment was not associated with reading test scores for African American students, but for White students, having a mother who work part-time was associated with higher test scores compared to White students who have a mother who works full-time.

The most direct way parents can intervene in children's television use is by regulating what, when and how much the child watches. Parents can select programs, make rules, organize time, or place restrictions on their children's television use. There are some differences in the supervision of White and African American students. For example, White students who spend over three hours at home without adult supervision earn lower test scores, while this is not the case for African American students.

The idea that television reaches people who live in varied familial contexts is often not considered. Whether televisions information enriches, impoverishes, or has no association on the recipients depends on what the information contributes to these contexts instead of any intrinsic quality of the medium. The policy implications from these findings are that there are important differences within the family contexts of

Whites and African Americans, which require a note of caution. The process by which television watching leads to higher reading achievement among students is almost certainly a complex one in which race, family resources, and parental involvement are all important factors. But, race is a complex social variable. This research has shown that policies that affect academic achievement should go beyond models that use White students as the norm.

This analysis was a cross sectional analysis of test scores at the 8th grade level. It could be that the associations between television watching and reading achievement do not occur for African American students until later. Therefore, the next chapter includes a longitudinal examination of amount of television hours watched and 10th grade reading test scores.

FIGURE 4: NUMBER OF TELEVISION HOURS WATCHED BY STUDENTS BY THEIR 8TH GRADE TEST SCORES AND RACE

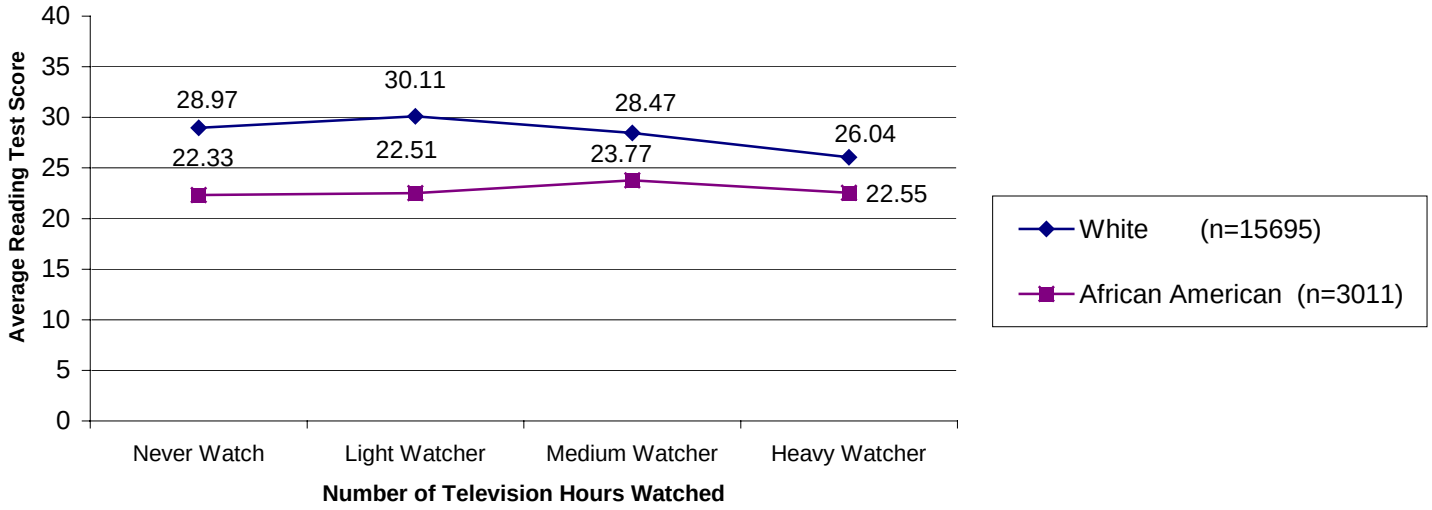


TABLE 4: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		**Model 2**		**Model 3**	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Number of TV hours in 8th grade (ref. Heavy watchers)						
Never watch television	-1.209	1.471***	-1.094	0.190	-0.604	-0.606
	-0.587	-0.440	-0.916	-0.440	-0.876	-0.394
Light watchers	-0.589	3.365***	-0.915*	1.977***	-0.875*	0.872***
	-0.435	-0.190	-0.447	-0.190	-0.426	-0.175
Medium watchers	1.057***	2.375***	0.649	1.536***	0.114	0.737***
	-0.343	-0.180	-0.348	-0.180	-0.331	-0.162
Background Characteristics						
1987 yearly family income (ref. less than 15,000)						
$15,000 to 24,999			1.975***	1.287***	1.750***	0.596**
			-0.421	-0.250	-0.398	-0.227
$25,00 to $34,999			2.805***	2.105***	2.361***	1.221***
			-0.502	-0.260	-0.474	-0.229
$35,000 to $49,999			3.068***	2.457***	2.215***	1.343***
			-0.596	-0.260	-0.564	-0.233
$50,000 to $74,999			2.719***	2.422***	1.778**	1.062***
			-0.685	-0.290	-0.646	-0.257
$75,000-99,999			6.242***	2.668***	4.444***	1.381***
			-1.331	-0.410	-1.255	-0.363
More than $100,000			5.976**	2.739***	6.254**	1.323***
			-2.064	-0.42	-2.039	-0.373

TABLE 4: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		Model 2		Model 3	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Parents' highest educational level in 8th grade (ref. High Sch Diploma)						
Less than High School			-1.328*	-2.590***	-0.744	-1.557***
			(0.543)	(0.330)	(0.512)	(0.295)
Some College			0.542	1.535***	-0.176	0.386*
			(0.394)	(0.191)	(0.375)	(0.168)
College Graduate			2.224**	3.991***	1.506*	1.457***
			(0.687)	(0.240)	(0.652)	(0.219)
Master's Degree			5.201***	6.122***	3.731***	2.901***
			(0.802)	(0.280)	(0.768)	(0.261)
Advanced Degree			7.560***	6.456***	5.147***	3.061***
			(1.627)	(0.387)	(1.547)	(0.352)
Gender (ref. Female)						
Male			-1.998***	-2.120***	-0.872**	-0.343**
			(0.307)	(0.140)	(0.302)	(0.126)
Family Structure in 8th Grade (ref. Intact)						
Lives with parent and step parent			-0.548	-0.500*	-0.101	-0.040
			(0.467)	(0.200)	(0.441)	(0.179)
Lives with mother only			0.525	0.961***	0.769	0.890***
			(0.397)	(0.230)	(0.375)	(0.207)
Lives with father only			-3.164**	-0.47	-2.685**	0.058
			(1.029)	(0.440)	(0.968)	(0.389)

TABLE 4: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		Model 2		Model 3	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Lives with another family structure			-0.230	-0.470***	0.015	0.561
			(0.631)	(0.490)	(0.597)	(0.440)
Maternal Employment in 8th grade (ref. Full Time)						
Part Time Employment			-0.644	0.796***	-0.856	0.568***
			(0.525)	(0.180)	(0.495)	(0.162)
Stay at home mother			-0.071	0.157	-0.014	0.020
			(0.536)	(0.180)	(0.504)	(0.163)
Parental Involvement						
Lack of Adult Supervision (ref. None)						
> 1 hour					0.438	0.327
					(0.460)	(0.211)
1-2 hours					1.330	0.117
					(0.478)	(0.217)
2-3 hours					0.294	-0.300
					(0.458)	(0.252)
Over 3 hours					0.093	-1.064***
					(0.497)	(0.287)
Limit Number TV Hours (ref.=Never)						
Often					0.435	0.351
					(0.479)	(0.211)
Sometimes					0.859*	0.731***
					(0.387)	(0.117)
Rarely					2.128***	0.748***
					(0.387)	(0.155)

TABLE 4: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1		Model 2		Model 3	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**
Rules about Television Use						
Rules a/b Types of TV Programs					0.243	-0.264
					(1.255)	(0.141
Rules a/b TV on School Day					-1.139**	-0.796***
					(2.039)	(0.132)
Parental Expectation about Educational Attainment					0.393***	0.618***
Parental Expectation					(0.055)	(0.026)
After School Activities						
English Homework					0.186	0.261***
					(0.652)	(0.051)
Leisure Reading					0.938***	1.241***
					(0.768)	(0.042)
English Grades						
8th Grade English Grades					1.192*	2.164***
					(0.163)	(0.072)
R^2	0.008	0.021	0.149	0.142	0.261	0.327

Chapter 5: Television Watching and High School Reading Achievement

INTRODUCTION

Thus far, I have examined what family context variables are associated with heavy television use and how television watching is related to middle school reading achievement for African American and White students. Results for White students support the previous research that a heavy amount of television watching is associated with lower reading achievement but this same association is not supported for African Americans students in cross-sectional analyses. In sum, watching a heavy amount of television is always negatively associated with reading test scores for White students but is almost always not significantly associated with reading test scores for African American students.

Chapter 4, like most other studies, has examined students' television watching and academic achievement using primarily cross-sectional data. Further, few studies have examined within group differences in the association between television watching and reading achievement. In this chapter, I focus on television watching and high school reading achievement with a longitudinal perspective focusing on within group differences.

These questions I address in this chapter, parallel those from Chapter 4, however this chapter differs from the previous by taking a longitudinal look at the relationship between television watching and academic achievement. I specifically address the following: How is the amount of television hours watched in 8^{th} grade related to 10^{th}

grade reading test scores? What role does family background play in the relationship between television and 10th grade test scores? What role does parental involvement and after school activities play in the relationship between television watching and 10th grade test scores? What role does prior achievement (8th grade English grades and 8th grade reading test score) play in the relationship between television watching and 10th grade reading achievement test scores? The longitudinal perspective in this chapter allows me to take temporal order as well as prior achievement into account.

I hypothesize that the pattern of association between television watching and reading achievement varies within African American and White student groups. Further differences in family context based on within group differences will operate simultaneously with and independent of the amount of television watched. Additionally, patterns of difference found at the 8th grade level will continue in the 10th grade. In particular, I expect indicators of family context to be highly associated with the relationship between television watching and reading achievement for White students and to have a weak or positive association for African American students.

ANALYTIC APPROACH

The sample used in these analyses is limited to the NELS:88-90 African American and White respondents who had scores for both the 8th grade reading test and the 10th grade IRT reading test. To address this issue I will once again begin with a descriptive analysis of the average 10th grade test score of each level of television hours watched by race. This procedure produces the bivariate relationship between 10th grade reading test scores and television watching.

The bivariate analysis is followed by multivariate regression analyses estimating 10th grade reading test scores. Once again a series of nested models for African

American and White students is presented. Prior research has illustrated that television watching is associated with reading achievement; therefore I begin with an examination of how television watching is related to reading achievement with a baseline model of reading achievement in the 10th grade that includes the amount of television watched. In Model 2, I address what role family background characteristics play in the relationship between television watching and 10th grade achievement. Model 3 assesses the role of parental involvement, after school activities and English grades. The full model accounts for prior reading achievement, therefore 8th grade IRT reading test scores are included.

AVERAGE READING TEST SCORES

Figure 5 presents the relationship between the amount of television hours watched and average reading test scores by student's race. Here we see that at each level of amount of television watched, the average test scores of White students is higher than those of African American students. Further, the lowest test score average for White students is higher than the highest test score average for African American students.

Similar to the Chapter 4 findings, variation across the amount of television watched is smaller for African American students. The difference between the highest and lowest test scores across television watching categories is 2.59 points..

Among White students, light watchers have an average reading test score of 34.08 followed by medium watchers with an average score of 32.46. Heavy watchers have the lowest average test score (29.91). The average test score for students who never watch television, was 33.73. The difference between the highest and lowest test scores across the amount of television hours watched is 4.17 points.

Although other factors are not controlled in bivariate analysis this analysis provides a picture of racial differences in 10th grade reading achievement by levels of

television watching. These findings reveal a different pattern between 10th grade reading test scores and amount of television watched and for African American and White students. In order to best interpret the varied effects of the amount of television hours watched on reading test scores, a multivariate set of analyses is necessary.

10th Grade Reading Test Scores

Table 5 shows the unstandardized coefficients of four separate ordinary least squares (OLS) regressions on 10th grade reading achievement test scores of family background characteristics, parental involvement, after school activities, English grades, and 8th grade IRT test scores. Model 1 shows that the amount of television hours watched does not have a significant association with 10th grade reading test scores for African American students. This finding is consistent with the 8th grade analysis, but inconsistent with previous research which further suggests that the relationship between television watching and reading achievement are quite different for African American and White students. These across the group differences are confirmed by the significant interactions shown in Appendix C.

On the other hand, Model 1 shows that the amount of television hours watched is associated with 10th grade reading test scores for White students. White students who reported that they never watched television earned 1.69 points higher than those who reported being a heavy watcher. Students who reported being a light watcher earned 3.55 points higher than those who reported being heavy watchers. Finally, White students who reported watching a medium amount of television earned 2.47 points higher than students who reported watching a heavy amount of television. As in chapter 4, lower levels of television watching is associated with reading test scores for White students.

In Model 2, family income, parents' highest education, sex, family structure and maternal employment are included in the model as family background characteristics. When family background characteristics are accounted for, the relationship between television watching and 10th grade reading test score is not changed for African American students. Regardless of how much television African American students watch, their television watching is not associated with higher or lower reading test scores.

The addition of family background characteristics reduces the magnitude of being a light or medium watcher for White students. Relative to heavy watchers, White students who watch between one to two hours of television a day, on average, achieve reading scores that are 1.97 points higher, whereas White students who report being medium watchers score 1.58 points higher than heavy watchers. Further, the coefficient for never watched is no longer significant suggesting that the relationship between never watching television and reading test scores is explained by the inclusion of background characteristics. As shown in (see Appendix C) pooled models with interaction terms differences in light watching are statistically significant.

The results from Model 2 also reflect the independent associations between family background characteristics and reading achievement for African American and White students. Family income and parents' highest education are positively related to 10th grade reading test scores. For example, African American students with a family income of 75,999 to 99,999 earn 9.90 points higher on the 10th grade reading test than African American students with a family income of less than 15,000. Similarly, African American students whose parent has a college degree earn 7.33 points higher on the 10th grade reading test than African American students whose parent has a high school diploma. Lastly, African American students who live with a single father score 7.13

points lower on the reading test than African American students who live with both parents.

For White students, family income and parents' education are positively associated with 10th grade reading achievement. As income and parent education increases, students' 10th grade reading test scores increases. White students with a family income of 75,999 to 99,999 earn 3.04 points higher on the 10th grade reading test than White students with a family income of less than 15,000. Similarly, White students whose parent has a college degree earn 5.032 points higher on the 10th grade reading test than White students whose parent has a high school diploma. On the other hand, White students who live with a single father score 3.44 points lower than White students who live with both parents. Finally, White students who have a mother who works part time earn .711 of a point higher on the reading achievement test than White students whose mother works full time outside the home. Racial differences across African American and White students in family income, family structure and maternal employment are supported by the significant race interactions shown in Appendix C.

Of interest is what happens when parental involvement, after school activities and English grades are added to the model, shown in Model 3. First, notice that for African American students, there is not a statistically significant relationship between the amount of television hours watched and reading achievement after parental involvement, after school activities and English grades are taken into account. Next, notice that the addition of parental involvement measures explains the association between light and medium watchers and reading test scores for White students as the coefficients for light and medium watchers are no longer significant.

Model 3 also reveals that several forms of parental involvement, after school activities and English grades are significant in estimating reading test scores for White students but less so for African American students. African American students who spend two hours or less without adult supervision after school earn higher reading test scores than African American students who do not spend any time alone without adult supervision after school. Additionally, limiting television and setting rules about television use is associated with reading test scores. An African American student who has television limited sometimes and rarely score 1.63 and 1.99 points higher, respectively, than an African American student who never has television watching limited. In the same way, an African American student whose parents set rules about the types of programs watched earn higher test scores (1.53) compared to an African American student who do not have rules about the types of television programs watched. On the other hand, an African American student that has rules about watching television on a school day score 1.66 points lower on the reading achievement test than an African American student who does not have rules about watching television on a school day.

Each increase in the educational aspirations African American parents who have for their child increases the child's reading test score by .67 of a point. African American students who spend more time on English homework and leisure reading will score higher on the reading achievement test. Finally, earning higher English grades increases reading test scores for African American students.

Model 3 reports the measures of parental involvement, after school activities and English grades that are independently associated to reading achievement for White students. White students who spend less than one hour without adult supervision after school earn higher test scores (.573) compared to White students who never spend time

without an adult present after school. White students who spend over three hours without an adult present after school score 2.53 points lower compared to White students who never spend any time without an adult present after school.

Other factors that were independently related to reading achievement for White students included parental limitation on the amount of television watched and rules about watching television on a school day. When White parents limited the number of hours their children watched television, students earn higher test scores than White students who never had television limited. On the other hand, when White parents implement rules about watching television on school days, White students earn lower test scores than White students whose parents do not implement rules. This suggests that parents may use rules as a disciplinary strategy for poor school performance. The higher the educational aspirations White parents have for their child, the child will earn higher test scores. I also account for after school activities to assess their role in the relationship between the amount of television hours watched and reading achievement. The more time White students spend on English homework and reading for leisure, the higher the student scored on the reading achievement test. Additionally, White parents who have high educational aspirations for their child earn higher test scores. Finally, English grades were also accounted for and are associated with higher test scores for White students. Interactions between race and lack of adult supervision, homework and leisure reading are reported in Appendix C.

Model 4 reports the full model, with 8th grade test scores included to account for temporal order and assess test score gain. The results indicate that 8th grade test scores do not change the relationship between amount of television hours watched and 10th grade reading achievement for African American students, but does change the association

between never watching television and reading achievement for White students. White students who never watch television score 1.47 points lower on the reading achievement test than White students who watch a heavy amount of television. However, 8th grade test scores are independently and positively associated with 10th grade test scores for both groups. In addition to examining within group differences, the interactions between race and lack of adult supervision, race and English homework and race and 8th grade reading test scores also reveal significant differences across African American and White students.

SUMMARY

This chapter has sought to fill in two major gaps in the literature by conducting a longitudinal examination of the relationship between the amount of television hours watched and reading achievement by race. The longitudinal nature of the NELS:88-90 data make it possible to begin to disentangle the factors that have some bearing on the relationship between television watching and reading achievement over time for White and African American students.

Second, although a great deal of research has been devoted to understanding the relationship between television watching and academic achievement, much of what we know about this relationship is based on relatively small samples of primarily middle to upper-middle class White students or has often used race as a control which does not inform about differences within groups, which appears to be warranted given the large percentage of time that is devoted to television for African American students. Of the existing studies that have examined racial differences, the focus has mainly been on differences in television usage. This focus adds little to our understanding of how race and family context structure possible processes that shape academic achievement.

The findings presented in this chapter support my hypotheses, 1) the pattern of association between television watching and reading achievement varies across African American and White student groups and 2) the differences in family context based on within group differences operate simultaneously with and independent of the amount of television watched. First, it is clear that disaggregating students based on their race contributed to understanding how the amount of television hours watched is related to reading test scores for all students. Second, examining television watching both independently and in conjunction with family context contributes to our understanding of reading achievement.

Overall, I found differences in the association between 8th grade television watching reading test scores continued in the 10th grade. The amount of television watched was never associated with 10th grade reading achievement for African American students. The inclusion of family background characteristics, parental involvement, after school activities, English grades and 8th grade reading test score did not change this association. Television watching was related to 10th grade reading test scores for White students until parental involvement, after school activities and English grades were taken into account. For African American students, 8th grade television watching was generally not significantly associated with 10th grade reading test scores. The observed differences in association between African American and White students in the amount of television hours watched and reading achievement were consistent across middle and high school. This finding supports Chapter 4's conclusion that race should be considered when examining the relationship between television watching achievement, because these findings as well as Chapter 4 contradict the research that posits a negative relationship between television watching and reading achievement

The data did not indicate the type of television watched by these students. It is, in theory, possible that African American students watch "better" television programs that promote learning more than White students. This could account for the racial differences. Even though racial variations in substantive watching habits are worth investigating, it seems unlikely that this could account for the findings in this study, particularly since recent media research indicates that situation comedies based on black characters, police dramas and sports events dominate all of the top ten network television programming watched by African Americans while reality television shows, situation comedies, dramas and Monday night football dominate all the top ten network television programming for Whites (Orange, 2000).

As I stated in the previous chapter, race is an extremely complex social variable. African American students not only tend to watch more television than their White counterparts, they also tend to be in lower categories of income and education. Further, race is associated with some fairly large dissimilarities between the independent associations of family income, parental education and family structure and 10^{th} grade reading achievement for African American and White students. These different patterns may affect the relationships between individual watching and achievement and the importance of television and achievement. Overall, family income and parents' highest education were significantly associated with reading achievement for African American students, but lost most of its power when 8^{th} grade reading test scores were included in the model. Family background characteristics and reading achievement were strong for White students, particularly family income and parents' highest education. The independent association between family income and parents' education and reading achievement remained even after prior achievement was accounted for.

African American and White students appear to receive fairly different forms of structure and regulation of television by their parents. Such differences in the viewing context can play an important role in determining the strength and nature of television's association with achievement. For example, White students who spend over three hours without adult supervision after school earn lower test scores, but this was not the case for African American students. African American students who have television limited earn the same test scores as students who never have television limited. On the other hand, when rules are set about television watching, African American students earn higher test scores, while rules about types of programs were associated with lower test scores for African American students. Limiting television was highly associated with earning higher test scores for White students, while having rules about television watching was associated with lower test scores. This finding once again points to the differences in parenting strategies. Limiting television appears to be associated with structuring time, while rules appear to be a response to behavior.

Finally, in order to account for temporal order I investigated the role of prior 8th grade reading test scores and 10th grade reading test scores. For White students, when 8th grade test scores were included, never watch television became significant, but did not change the association for light or medium watching and 10th grade reading test scores, at the same time as the inclusion of 8th grade test scores did not change the relationship between the amount of television hours watched and reading achievement for African American students.

Overall, analyses presented in this chapter support the findings from the previous chapter that watching a heavy amount of television is *always* negatively associated with reading test scores for White students but is almost always *not* significantly associated

with reading test scores for African American students. Moreover, these relationships are consistent from middle to high school. Further, these findings bolster the contention that research that investigates the relationship between television watching and academic achievement should account for race as an integral aspect of family context. When race is accounted for as a control only, many possible differences between White and African Americans are not captured as they pertain to the relationship between television watching and reading achievement.

FIGURE 5: NUMBER OF TELEVISION HOURS WATCHED BY STUDENTS BY THEIR AVERAGE 10TH GRADE TEST SCORES AND RACE

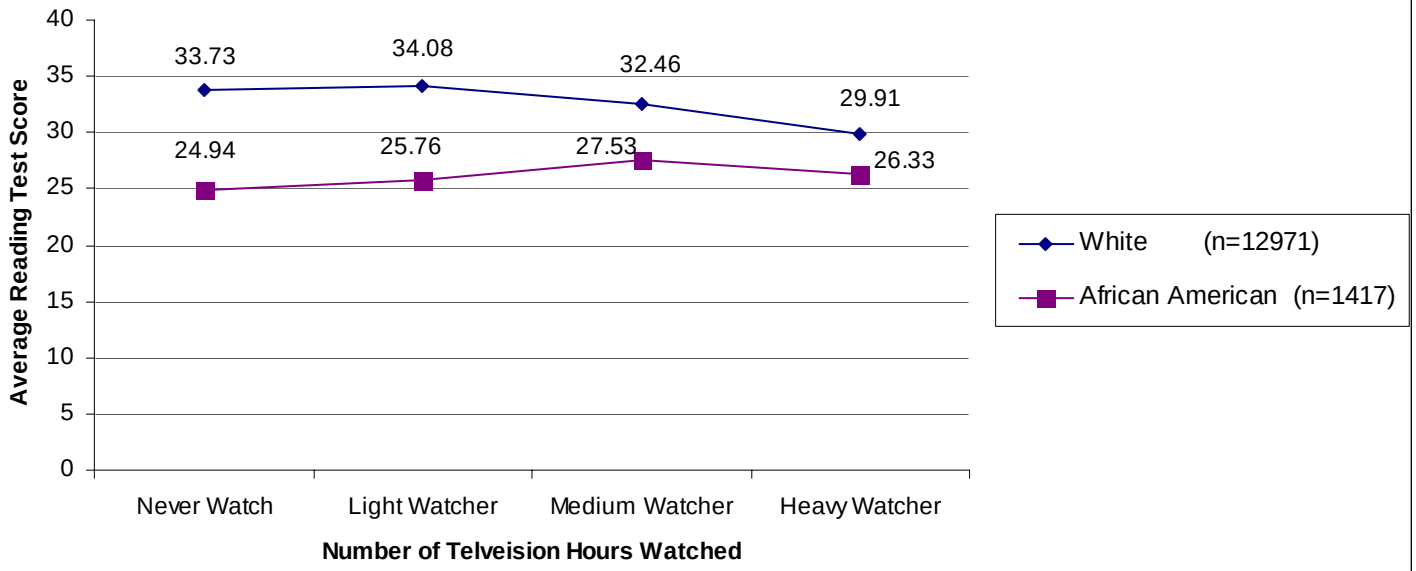


TABLE 5: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1		Model 2		Model 3		Model 4	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**	**African American**	**White**
Number of TV hours in 8th grade (ref. Heavy watchers)								
Never watch television	-1.176	1.686 **	-0.158	0.848	2.064	0.241	0.528	-1.473 ***
	(1.903)	(0.600)	(1.789)	(0.579)	(1.710)	(0.519)	(1.181)	(0.378)
Light watchers	-0.872	3.546 ***	-0.731	1.968 ***	-0.820	0.335	-0.591	-0.305
	(0.774)	(0.270)	(0.769)	(0.263)	(0.730)	(0.240)	(0.505)	(0.175)
Medium watchers	1.288	2.465 ***	0.766	1.576 ***	0.496	0.249	0.116	-0.218
	(0.659)	(0.260)	(0.638)	(0.248)	(0.599)	(0.223)	(0.416)	(0.163)
Background Characteristics								
1987 yearly family income (ref. less than 15,000)								
$15,000 to 24,999			0.431	0.560	-0.627	0.229	-0.683	0.103
			(0.887)	(0.430)	(0.830)	(0.380)	(0.574)	(0.227)
$25,00 to $34,999			1.577 *	1.392 ***	0.674	0.806 **	-0.299	0.283
			(0.802)	(0.294)	(0.757)	(0.261)	(0.526)	(0.191)
$35,000 to $49,999			0.287	1.956 ***	-0.717	1.031 ***	-0.545	0.382 *
			(0.100)	(0.294)	(0.950)	(0.262)	(0.658)	(0.192)
$50,000 to $74,999			2.920 *	1.665 ***	1.635	0.746 **	-0.467	0.33
			(1.146)	(0.325)	(1.073)	(0.291)	(0.752)	(0.213)
$75,000-99,999			9.897 ***	3.057 ***	6.722 ***	2.064 ***	2.831 *	0.938 **
			(2.148)	(0.514)	(2.023)	(0.457)	(1.401)	(0.334)
More than $100,000			8.388 *	3.953 ***	7.433	2.162 ***	-1.013	1.068 **
			(4.187)	(0.515)	(3.882)	(0.461)	(2.690)	(0.336)

TABLE 5: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1		Model 2		Model 3		Model 4	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**	**African American**	**White**
Parents' highest educational level in 8th grade (ref. High Sch Diploma)								
Less than High School			-0.854	-2.705	-0.191	-1.373	0.344	-1.020
			(0.989)	(0.466)	(0.933)	(0.413)	(0.647)	(0.302)
Some College			1.847 *	2.084 ***	0.491	0.598 ***	0.584	-0.044
			(0.722)	(0.254)	(0.689)	(0.227)	(0.476)	(0.168)
College Graduate			7.327 ***	5.032 ***	5.209 ***	1.894 ***	1.763 *	0.386
			(1.160)	(0.323)	(1.114)	(0.294)	(0.779)	(0.216)
Master's Degree			5.636 ***	7.268 ***	3.078 *	3.318 ***	1.462	0.796
			(0.144)	(0.377)	(1.375)	(0.343	(0.953)	(0.252)
Advanced Degree			10.144 *	6.683 ***	5.625	3.711 ***	2.998	1.001
			(3.996)	(0.523)	(3.737)	(0.470)	(2.579)	(0.344)
Sex (ref. Female)								
Male			-3.544 ***	-2.089 ***	-1.394 *	-0.08	-1.045 **	0.156
			(0.549)	(0.185)	(0.545)	(0.171)	(0.378)	(0.124)
Family Structure in 8th Grade (ref. Intact)								
Lives with parent and step parent			-0.403	-0.659 *	-1.095	0.079	-0.292	-0.151
			(0.825)	(0.269)	(0.797)	(0.240)	(0.555)	(0.175)
Lives with mother only			0.349	0.797 *	0.463	0.768 **	-0.208 *	0.375
			(0.710)	(0.326)	(0.659)	(0.290)	(0.456)	(0.212)

TABLE 5: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**	**African American**	**White**
Lives with father only			-7.125 ***	-3.436 ***	-5.696 ***	-1.081 *	-1.880 **	-0.747 *
			(1.467)	(0.576)	(1.398)	(0.514)	(0.966)	(0.375)
Lives with another family structure			-0.441	-0.064	-0.431	1.462 *	0.925	0.066
			(1.113)	(0.759)	(1.039)	(0.674)	(0.720)	(0.493)
Maternal Employment in 8th grade (ref. Full Time)								
Part Time Employment			-1.837	0.711 **	-2.223 *	0.414	-0.58	0.004 ***
			(0.972)	(0.243)	(0.909)	(0.216)	(0.629)	(0.158)
Stay at home mother			-0.018	0.403	0.192	0.266	0.419	0.112
			(1.007)	(0.248)	(0.933)	(0.223)	(0.646)	(0.163)

TABLE 5: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1		Model 2		Model 3		Model 4	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**	**African American**	**White**
Parental Involvement								
Lack of Adult Supervision (ref. None)								
> 1 hour					1.846 *	0.573 *	1.593 **	-0.136
					(0.841)	(0.290)	(0.583)	(0.211)
1-2 hours					0.323	0.34	-0.125	0.003
					(0.866) *	(0.300)	(0.600)	(0.218)
2-3 hours					1.98	-0.186	0.761	-0.027
					(1.005)	(0.351)	(0.698)	(0.257)
Over 3 hours					-0.349	-2.056 ***	-1.176	-1.266 ***
					(0.887)	(0.358)	(0.615)	(0.261)
Limit Number TV Hours (ref.=Never)								
Often					0.412	1.214 ***	-0.114	0.971 ***
					(0.876)	(0.287)	(0.606)	(0.210)
Sometimes					1.631 *	1.1821 ***	-0.0817	0.7847 ***
					(0.687)	(0.231)	(0.479)	(0.168)
Rarely					1.994 **	1.539 ***	-0.603	0.955 ***
					(0.665)	(0.210)	(0.468)	(0.153)
Rules about Television Use								
Rules a/b Types of TV Programs					1.530 *	-0.020	0.788	0.167
					(0.648)	(0.192)	(0.448)	(0.140)

TABLE 5: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Independent Variables	**African American**	**White**	**African American**	**White**	**African American**	**White**	**African American**	**White**
Rules a/b TV on School Day					-1.656 *	-1.275 ***	-0.018	-0.423 **
					(0.667)	(0.178)	(0.463)	(0.131)
Parental Expectation about Educational Attainment								
Parental Expectation					0.669 ***	0.763 ***	0.144	0.321 ***
					(0.105)	(0.036)	(0.074)	(0.027)

Chapter 6: Summary and Conclusions

As one of the most fundamental and essential skills for functioning in society today, there are few who would deny the importance of reading. Reading equips an individual for lifelong learning, builds language acquisition, increases vocabulary and allows the exchange of ideas. Consequently, there has been much research on the process of reading and the acquisition of reading skills. Educators and parents alike have a vested interest in the progress toward literacy made by those children in their care. Given that adolescents are watching three or more hours of television per day, and reading skills require consistent practice, there is no wonder television is assumed to be associated with reading skills. Parents and educators are concerned because, they assume that children who spend more time watching television, must be spending less time on other activities.

This study builds on previous studies of academic achievement by investigating the family context of African American and White students and how the family context impacts television watching and academic achievement. Of particular interest is the relationship between television watching and reading achievement and the possible mediating role that family context plays among African American and White students.

The outcomes that I investigate in this study, all of which contribute to an increased likelihood of academic achievement, are of interest to researchers and policy makers who study race and ethnicity, communication and education. In Chapter 3, I predict heavy television watching in middle school for African American and White students. In Chapter 4, I examine middle school reading achievement. Finally, in Chapter 5, I conduct a longitudinal examination of reading achievement.

My results show that among African American students traditional measures of family context and parental involvement that were used in this study were less powerful in predicting heavy television watching. For White students, however, family income and parents' education were powerful predictors of heavy television watching. Findings from this study also suggest that television may not be associated with middle school or high school reading achievement for African American students. Television is associated with middle school reading achievement for White students. When the data were examined longitudinally, there was no evidence that television watching leads to lower achievement in high school for African American or White students.

LIMITATIONS OF PREVIOUS STUDIES

Previous studies that have examined television watching and reading achievement generally have had at least one of the following limitations: (1) small or otherwise unrepresentative sample; (2) have been cross-sectional data. This study as well as a number of scholars (Gortmaker et al, 1990; Caldas and Bankston, 1999; Orange, 2000; Huston et al., 2001) argues that researchers should move away from conceptualizing middle-class whites as the norm while viewing other ethnic and social groups only in terms of deviance from this norm. A contribution of this research lies in the methodological approach. Despite the persistent findings that African Americans and Whites continue to differ and further that African Americans are not homogenous, studies continue to examine African Americans without investigating within group differences thus perpetuating as the norm. By studying within group differences, this investigation contradicted previous research that found a negative association between television watching and reading achievement (Hornik, 1981; Beentjes and van der Voort, 1988;

Comstock and Paik, 1991; Koolstra et al., 1997) thus presenting and presented a much more accurate picture of television watching and reading achievement.

Concern about the estimated impact of television watching on the development of reading skills has led to a substantial body of research investigating whether television watching inhibits this process. Most of the research has documented only cross-sectional relationships between television watching and reading skill, relationships that were established at one point in time. Consistent with previous cross-sectional studies that have found a negative relationship between television watching and reading achievement, this dissertation found a negative association between television watching and reading achievement. However, this finding was for White students only. Television watching was not significantly associated reading achievement for African American students. This finding is significant given the alarms about television watching combined with finding that almost 45 percent of the African American students in this sample reported being a heavy watcher.

The findings presented here are important because this study is only one of a few studies that have conducted a longitudinal investigation of the relationship between television watching and reading achievement (Gortmaker et al., 1990; Ritchie et al., 1987; Gaddy, 1986). The findings from this study offer a somewhat firmer basis for drawing generalizable conclusions about the association between television watching and reading achievement. These data indicate that the amount of television watching for African American and White students during adolescence is not a significant influence upon later test scores.

SUMMARY OF FINDINGS

The purpose of my study was not to compare averages in television watching across groups, most studies have done this. Rather, the purpose is determine how family background characteristics, parental involvement and after school activities predict heavy television watching differently among African American and White students. Overall, the predictors tested were less powerful in explaining their relationship to watching a heavy amount of television for African American students than for White students. Individual, demographic, familial and parental characteristics of a student allowed for more accurate prediction of student television watching for White students than for African American students.

Correlates of Television Watching for African American Students

The findings from my analyses suggest that many of the previously hypothesized measures that predict television are not generalizable to all students. In the abundance of studies that have examined television watching (Hornik, 1981; Beentjes and van der Voort, 1988; Comstock and Paik, 1991; Koolstra et al., 1997), the majority has found a linear relationship between family income and parents education. The findings in this study for African American students contradict those studies. Family income and parents' education were significant but their association with television was explained when parental involvement and after school activities were included in the model. African American students who live with someone other than at least one parent were more likely to be heavy watchers than African students who lived with both parents.

African American students who had mothers that stayed at home were less likely to be heavy watchers. This finding is consistent with earlier studies, suggesting that when parents are available to supervise their student's time, they watch less television.

Lack of parental limitation on the amount of television increased the likelihood of heavy television watching. This finding is also consistent with earlier studies, suggesting that when parents are involved in structuring their student's time, students are less likely to spend the majority of it watching television. Finally, African American students who spent more time on their English homework watch less television. This finding is consistent with previous finding that have found time spent on homework replaces the time spent watching television.

Correlates of Television Watching for White Students

Among White students, the models predicted heavy television watching quite well. This finding confirms previous research and is expected. Most studies that have investigated television watching have employed small and predominately White samples. Family income and parents' education were powerful predictors of heavy television watching. In White families, those with lower levels of incomes had students who watched higher amounts of television. White students with parents who had lower levels education were more likely to be heavy television watchers.

Lack of adult supervision was associated with television watching for White students. White students who spent less than an hour without adult supervision after school at home watched less television, while White students who spent two or more hours without adult supervision after school at home watched more television. This finding is consistent with earlier studies that have found students who spend several hours at home alone after school are generally required to stay in the home until an adult arrives at home, thus this amount of unsupervised time provides more opportunity for a student to watch television. White parents that limit the amount of television hours their child watches have students who watch less television. The higher the educational

aspiration a White parent has for their child, the less television the child watches. White parents with high expectations about their child's educational attainment had students who watched less television. Lastly, White students who spent more time on their English homework watched less television. Again, this suggests that an increased amount of time spent on homework reduces the amount of time left to spend on watching television.

In summary, these findings show that the patterns of associations between predictors and television watching are not similar among African American and White students. Despite variation in time spent watching television among African American students, the predictors in this dissertation were less useful in explaining individual differences for this group than they were for White students. A possible reason may be that television serves specific functions for African Americans across socioeconomic groups. Earlier literature suggests that African American youths and adults use television as a window to the world of the majority culture. They also consider African American characters, sports stars, and public figures on television as sources of ethnic pride and identity (Orange, 2000). These functions are likely to be independent of particular socioeconomic and family characteristics. Therefore, variables in domains other than those included in this study must be used in future research to consider variation in viewing among African Americans.

TELEVISION WATCHING AND READING ACHIEVEMENT

Concern about the impact of television watching on reading skills has led to a substantial body of research. Most studies have investigated whether television inhibits this process. Most of this research has documented only cross-sectional relations between television watching and reading skill, that is, relations that were established at

one point in time. The majority of these studies reported negative relationships between the amount of television student's watch and reading achievement. Because NELS:88-90 data is longitudinal, this study can begin to disentangle how the early television watching which is mediated by family context, after school activities and prior achievement of African American and White students is related to reading achievement in high school.

Reading Achievement for African American Students

The lack of significant association between television watching and reading achievement in middle and high school for African American students found in the present study clearly deviates from the findings obtained in earlier panel studies (Gaddy, 1986; Gortmaker et al., 1990; Koolstra, 1997) in which negative longitudinal effect on reading comprehension were found. One explanation why this study's findings are inconsistent with previous studies is because previous studies failed to examine within group differences on reading achievement. Perhaps the reason television is not negatively associated with achievement for African Americans could because they report that the main reason they watch television is to learn (Stroman, 1986). African American students in particular identify television as a major source of information, and there is evidence of their learning new facts or information from television.

In the cross-sectional analysis several measures are independently associated with reading test scores for African American students: family income, parents' education, family structure, limit television, rules about amount of television watched, parental expectation and leisure reading.

In the longitudinal analysis, parents' education, family structure, lack of adult supervision, English homework and reading test scores are all related to high school

reading achievement. These results are consistent with previous studies that find that educational expectations are positively associated with achievement.

Reading Achievement for White Students

Television watching was significantly associated with reading achievement in eighth grade for White students. In high school television watching was similarly associated until parental involvement, after school activities and grades were included in the model. These findings support previous cross-sectional studies that have found a negative association between television watching and reading achievement. However, the longitudinal findings are inconsistent with previous studies that have found a long term association between television watching and reading achievement.

LIMITATIONS OF CURRENT STUDY

Several caveats regarding this study must be acknowledged. A major shortcoming of this study is the measure of television watching. It has been suggested that operationalizing television watching only in terms of gross amount ignores many aspects of the phenomenon, including involvement and the content of what is viewed. While a global measure of television watching that is used in this study does address the significant question of the overall estimated impact of television, it does not however address many more specific ones such as types of content. When possible, future studies should.

Another limitation concerns the reading achievement measure. Roberts et al., (1991) suggest reading achievement measured by standardized test is but one facet of a larger complex of behaviors, attitudes and cognitions related to reading. Therefore by focusing on skill acquisition, which standardized exams measure, this study may miss

some important explanatory relationships that might present themselves in the form of reading attitudes, reading behaviors and perceptions of the reading environment.

The apparent inability to find out what influences television watching or the relationship between the amount of television watched and reading achievement for African American students may be an artifact of the research methods, or better yet the survey questions used to assess measures. In the same way, the loss of students due to attrition is yet another artifact of using survey data. The loss of students to attrition may attenuate the associations found in this study.

CONCLUSION AND FUTURE RESEARCH

Although this study made a significant contribution by studying within group differences of African American and White students, Latino and Asian students were not included. Although studies on minority students are sparse, the majority of those studies include African American students. It would be interesting to explore television watching and its association with reading achievement within Latino and Asian populations. Further, another study might compare predictors of television watching among different segments of those groups, for instance investigate the family context of highly educated Asian, Latino, African American and White families. Similar to this suggestion, another study might examine the predictors of television watching among a homogeneous sample of African American parents with higher levels of education. It would be interesting to explore parenting style and attitudes toward television as predictors of heavy television watching among well educated mothers, and compare the results to other studies that have already examined White mothers.

This study relied on a single measure of television watching and includes issues difficult to investigate with questionnaire surveys, such as the social desirability of

television regulation and parents' personal rationales for regulating their children's television watching. A deeper exploration of how parents negotiate television use with their children through in-depth interviews of students and parents might include underlying values, attitudes, beliefs and ideas that are related to both parenting and to television.

SUMMARY

There seems to be almost a working assumption by researchers and the public that television impairs the development of reading skills. The cross-sectional analysis generated by my analyses replicate the findings of previous research efforts for White students only. It is clear that upon closer inspection, by implementing a more rigorous specification of the conditions and mechanisms that play a role in this relationship, the finding of a negative relationship no longer seems compelling. The findings from this study add to our understanding of adolescent's television watching and its relationship to academic achievement.

Appendices

APPENDIX A: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2		Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
African American	0.7565 ***	0.946 ***	0.789 ***	0.951 ***
	(0.007)	(0.006)	(0.082)	(0.210)
Background Characteristics				
1987 yearly family income (ref. less than $15,000)				
$15,000 to $24,999	-0.158 ***	-0.031 ***	-0.022	-0.031
	(0.005)	(0.005)	(0.054)	(0.056)
$25,00 to $34,999	-0.275 ***	-0.105 ***	-0.045	-0.052
	(0.005)	(0.005)	(0.058)	(0.059)
$35,000 to $49,999	-0.461 ***	-0.228 ***	-0.218 ***	-0.216 ***
	(0.005)	(0.005)	(0.061)	(0.063)
$50,000 to $74,999	-0.642 ***	-0.259 ***	-0.274 ***	-0.261 ***
	(0.005)	(0.006)	(0.070)	(0.073)
$75,000 to $99,999	-0.971 ***	-0.456 ***	-0.445 ***	-0.404 ***
	(0.011)	(0.011)	(0.115)	(0.118)
More than $100,000	-1.339 ***	-0.721 *	-0.908 *	-0.821 *
	(0.011)	(0.012)	(0.124)	(0.128)
Parents' highest educational level in 8th grade (ref. High School Diploma)				
Less than High School		-0.200 **	-0.002	0.036
		(0.005)	(0.065)	(0.068)
Some College		-0.116 ***	-0.111 *	-0.005
		(0.004)	(0.045)	(0.048)
College Degree		-0.441 ***	-0.447 ***	-0.205 **
		(0.006)	(0.063)	(0.067)
Master's Degree		-0.952 ***	-0.961 ***	-0.638 ***
		(0.008)	(0.086)	(0.090)
Advanced Degree		-0.819 ***	-0.991 ***	-0.574 ***
		(0.012)	(0.121)	(0.126)
Gender (ref. Female)				
Male		0.073 ***	0.075 *	0.035
		(0.003)	(0.035)	(0.037)
Family Structure in 8th Grade (ref. Intact)				
Lives with parent and step parent		0.001	0.005	-0.064
		(0.005)	(0.056)	(0.054)
Lives with mother only		0.084 ***	0.082	0.004
		(0.005)	(0.057)	(0.054)
Lives with father only		-0.140 ***	-0.142	-0.25 *
		(0.100)	(0.122)	(0.117)
Lives with another family structure		0.201	0.024	0.014
		(0.009) ***	(0.124)	(0.104)

APPENDIX A: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2		Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
Maternal Employment in 8th grade (ref. Full Time)				
Part Time Employment		-0.188 ***	-0.213 ***	-0.135 ***
		(0.004)	(0.053)	(0.052)
Stay at home		-0.134 ***	-0.081	-0.052
		(0.004)	(0.048)	(0.049)
Interactions				
African American * $15,000 to $24,999	0.395 ***			
	(0.012)			
African American * $25,000 to $34,999	0.259 ***			
	(0.013)			
African American * $35,000 to $49,999	0.133 ***			
	(0.015)			
African American * $50,000 to $74,999	0.385 ***			
	(0.016)			
African American * $75,000 to $ 99,999	0.200 ***			
	(0.036)			
African American * More than $100,000	0.877 ***			
	(0.051)			
African American * Less than High		-0.194 ***		
		(0.009)		
African American * Some College		-0.212 ***		
		(0.009)		
African American * College Graduate		0.433 ***		
		(0.015)		
African American * Master's Degree		0.479 ***		
		(0.0200)		
African American * Advanced Degree		-0.067		
		(0.046)		
African American * Step Parents			0.081	
			(0.151)	
African American * Single Mother			0.069	
			(0.117)	
African American * Single Father			0.243	
			(0.327)	
African American * Other			0.323	
			(0.217)	
African American * Mother employed Part-time			0.079	
			(0.164)	
African American * Stay-at-Home Mother			-0.424	
			(0.164) **	

APPENDIX A: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2		Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
Parental Involvement				
Lack of Adult Supervision (ref. None)				
less than 1 hour				-0.277 ***
				(0.063)
1-2 hours				-0.138 *
				(0.064)
2-3 hours				0.181 *
				(0.073)
Over 3 hours				0.267 ***
				(0.072)
Limit Number TV Hours (ref.=Never)				
Often				-1.142 ***
				(0.073)
Sometime				-0.866 ***
				(0.055)
Rarely				-0.388 ***
				(0.047)
Rules about Television Use				
Rules a/b Types of TV Programs				0.031
				(0.043)
Rules a/b TV on School Day				-0.085 *
				(0.042)
Parental Expectation about Educational Attainment				0.031
Parental Expectation				(0.008)
After School Activities				
Homework				-0.096 ***
				(0.017)
Leisure Reading				-0.016
				(0.013)

APPENDIX A: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2		Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
Interactions				
African American * One to Two Hours				0.249
				(0.158)
African American * Two to Three Hours				0.101
				(0.163)
African American * Over Three Hours				0.072
				(0.185)
African American * Often				-0.031
				(0.171)
African American * Sometime				0.301
				(0.172)
African American * Rarely				0.361 **
				(0.133)
African American * Rules about Television Program				-0.024
				(0.129)
African American * Rules about Television on School day				0.084
				(0.120)
African American * Parental Expectation about Educational Attainment				-0.117
				(0.124)
African American * Homework				-0.06 ***
				(0.018)
African American * Leisure Reading				-0.051
				(0.047)
African American * Less than High				-0.038
				(0.022)
African American * Some College				-0.106

APPENDIX A: LOGISTIC REGRESSION OF BEING A HEAVY TELEVISON WATCHER ON PREDICTED FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2		Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
African American * Advanced Degree			0.081	
			(0.151)	
African American * Step Parents			0.069	
			(0.117)	
African American * Single Mother			0.243	
			(0.327)	
African American * Single Father			0.323	
			(0.217)	
African American * Other			0.079	
			(0.164)	
African American * Mother employed Part-time			-0.424 **	
			(0.164)	

APPENDIX B: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2	Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**
African American	-3.204 ***	-2.371 ***	-4.292 ***
	(0.279)	(0.283)	(0.709)
Number of TV hours in 8th grade (ref. Heavy watchers)			
Never watch television	0.865 ***	-0.441	-0.784 *
	(0.371)	(0.369)	(0.326)
Light watchers	3.197 ***	1.742 ***	0.844 ***
	(0.166)	(0.165)	(0.148)
Medium watchers	2.176 ***	1.346 ***	0.647 ***
	(0.158)	(0.155)	(0.135)
Background Characteristics			
1987 yearly family income (ref. less than 15,000)			
Less than $15,000		1.483 ***	1.159 ***
		(0.191)	(0.178)
$25,00 to $34,999		2.514 ***	2.078 ***
		(0.196)	(0.185)
$35,000 to $49,999		2.968 ***	2.312 ***
		(0.204)	(0.191)
$50,000 to $74,999		2.921 ***	2.113 ***
		(0.228)	(0.214)
$75,000-99,999		3.461 ***	2.561 ***
		(0.343)	(0.319)
More than $100,000		3.428 ***	2.436 ***
		(0.357)	(0.332)
Parents' highest educational level in 8th grade (ref. High Sch Diploma)			
Less than High School		-2.452 ***	-2.127 ***
		(0.232)	(0.205)
Some College		1.216 ***	-0.115
		(0.154)	(0.146)
College Graduate		3.729 ***	1.544 ***
		(0.203)	(0.163)
Master's Degree		5.872 ***	3.209 ***
		(0.244)	(0.205)

APPENDIX B: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2	Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**
Advanced Degree		6.461 ***	3.532 ***
		(0.336)	(0.296)
Gender (ref. Female)			
Male		-1.972 ***	-0.992 ***
		(0.112)	(0.106)
Family Structure in 8th Grade (ref. Intact)			
Lives with parent and step parent		-0.542 **	-0.298
		(0.167)	(0.156)
Lives with mother only		0.911 ***	0.707 ***
		(0.179)	(0.168)
Lives with father only		-0.637	-0.353
		(0.365)	(0.339)
Lives with another family structure		-0.496	0.03
		(0.354)	(0.329)
Maternal Employment in 8th grade (ref. Full Time)			
Part Time Employment		0.762 ***	0.671 ***
		(0.156)	(0.145)
Stay at home mother		0.114	0.115
		(0.150)	(0.141)
Interactions			
African American * Never Watch	-2.074 ***	-0.808	1.553
	(1.068)	(1.079)	(1.388)
African American * Light Watch	-3.785 ***	-2.497 ***	-1.328 ***
	(0.516)	(0.519)	(0.636)
African American * Medium Watch	-1.118 ***	-0.747	-0.137
	(0.416)	(0.415)	(0.501)
Parental Involvement			
Lack of Adult Supervision (ref. None)			
> 1 hour			0.631 ***
			(0.179)

APPENDIX B: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2	Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**
1-2 hours			0.413 *
			(0.186)
2-3 hours			-0.107
			(0.217)
Over 3 hours			-0.864 ***
			(0.219)
Limit Number TV Hours (ref.=Never)			
Often			0.049
			(0.180)
Sometimes			0.612 ***
			(0.149)
Rarely			0.751 ***
			(0.139)
Rules about Television Use			
Rules a/b Types of TV Programs			-0.082
			(0.125)
Rules a/b TV on School Day			-0.962 ***
			(0.118)
Parental Expectation about Educational Attainment			-0.556 ***
Parental Expectation			(0.022)
After School Activities			
English Homework			0.293 ***
			(0.044)
Leisure Reading			1.278 ***
			(0.037)
English Grades			
8th Grade English Grades			1.956 ***
			(0.059)
Interactions			
African American * $15,000 to $24,999		0.336	1.128
		(0.509)	(0.624)
African American * $25,000 to $34,999		0.094	0.347

APPENDIX B: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 8TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES AND ENGLISH GRADES

	Model 1	Model 2	Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**
		(0.588)	(0.693)
African American * $35,000 to $49,999		-0.303	-0.332
		(0.691)	(0.849)
African American * $50,000 to $74,999		-0.547	-0.317
		(0.796)	(0.946)
African American * $75,000 to $ 99,999		2.529	2.597
		(1.521)	(1.849)
African American * More than $100,000		4.34	6.105
		(2.442)	(2.916)
African American * Less than High		-0.081	-0.811
		(0.379)	(0.478)
African American * Some College		0.576	-0.054
		(0.405)	(0.508)
African American * College Graduate		-0.934	0.641
		(0.715)	(0.860)
African American * Master's Degree		-0.355	0.64
		(0.859)	(0.972)
African American * Advanced Degree		0.346	-0.503
		(1.817)	(2.670)
African American * Step Parents		0.01	0.475
		(0.552)	(0.693)
African American * Single Mother		-0.206	0.408
		(0.484)	(0.582)
African American * Single Father		-2.588 *	-2.464
		(1.210)	(1.418)

APPENDIX C: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES, ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1	Model 2	Model 3	Model 4
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
African American	-3.472 ***	-2.487 ***	-3.436 ***	6.774 ***
	(0.424)	(0.411)	(0.371)	(1.163)
Number of TV hours in 8th grade (ref. Heavy watchers)				
Never watch television	0.856 ***	0.301	-0.201	-1.131 ***
	(0.528)	(0.503)	(0.456)	(0.313)
Light watchers	3.395 ***	1.7 ***	0.341	-0.292 *
	(0.243)	(0.232)	(0.217)	(0.147)
Medium watchers	2.302 ***	1.348 ***	0.247	-0.122
	(0.232)	(0.221)	(0.201)	(0.134)
Background Characteristics				
1987 yearly family income (ref. less than 15,000)				
Less than $15,000		2.031 ***	1.338 ***	0.610 ***
		(0.280)	(0.252)	(0.181)
$25,00 to $34,999		2.96 ***	2.165 ***	0.766 ***
		(0.286)	(0.258)	(0.186)
$35,000 to $49,999		3.301 ***	2.135 ***	0.761 ***
		(0.294)	(0.267)	(0.192)
$50,000 to $74,999		3.289 ***	2.142 ***	0.715 ***
		(0.322)	(0.292)	(0.210)
$75,000-99,999		5.127 ***	3.789 ***	1.513 ***
		(0.486)	(0.438)	(0.315)
More than $100,000		5.469 ***	3.446 ***	1.333 ***
		(0.495)	(0.448)	(0.321)
Parents' highest educational level in 8th grade (ref. High Sch Diploma)				
Less than High School		-2.323 ***	-1.747 ***	-0.716 ***
		(0.336)	(0.301)	(0.206)
Some College		1.835 ***	0.409 *	0.005
		(0.219)	(0.199)	(0.143)
College Graduate		5.005 ***	2.199 ***	0.476 **
		(0.286)	(0.263)	(0.159)
Master's Degree		6.921 ***	3.426 ***	0.892 ***
		(0.338)	(0.311)	(0.197)
Advanced Degree		6.584 ***	3.663 ***	0.794 **
		(0.470)	(0.428)	(0.288)
Gender (ref. Female)				
Male		-2.09 ***	-0.151	0.064
		(0.158)	(0.148)	(0.106)
Family Structure in 8th Grade (ref. Intact)				
Lives with parent and step parent		-0.637 **	-0.014	-0.167
		(0.234)	(0.212)	(0.152)
Lives with mother only		0.964 ***	0.929 ***	0.313
		(0.265)	(0.239)	(0.172)

APPENDIX C: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES, ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1	Model 2	Model 3	Model 4
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
Lives with father only		-3.833 ***	-1.794 ***	-0.722 *
		(0.496)	(0.448)	(0.322)
Lives with another family structure		0.331	1.473 **	1.006 **
		(0.537)	(0.483)	(0.348)
Maternal Employment in 8th grade (ref. Full Time)				
Part Time Employment		0.616 **	0.341	-0.048
		(0.216)	(0.195)	(0.139)
Stay at home mother		0.298	0.101	0.056
		(0.217)	(0.196)	(-0.141)
Interactions				
African American * Never Watch	-2.034 ***	-0.249	1.689	2.111
	(1.837)	(1.717)	(1.553)	(1.114)
African American * Light Watch	-4.268 ***	-2.288 **	-0.849	-0.274
	(0.457)	(0.725)	(0.651)	(0.467)
African American * Medium Watch	-1.014 ***	-0.643	0.385	0.310
	(0.652)	(0.622)	(0.557)	(0.402)
Parental Involvement				
Lack of Adult Supervision (ref. None)				
> 1 hour			0.763 **	-0.185
			(0.239)	(0.181)
1-2 hours			0.422	0.021
			(0.247)	(0.186)
2-3 hours			0.259	-0.113
			(0.292)	(0.221)
Over 3 hours			-1.526 ***	-1.171 ***
			(0.291)	(0.224)
Limit Number TV Hours (ref.=Never)				
Often			0.968 ***	0.811 ***
			(0.242)	(0.182)
Sometimes			0.947 ***	0.656 ***
			(0.198)	(0.149)
Rarely			1.529 ***	0.846 ***
			(0.185)	(0.139)
Rules about Television Use				
Rules a/b Types of TV Programs			0.181	0.139
			(0.168)	(0.126)
Rules a/b TV on School Day			-1.367 ***	-0.405 ***
			(0.159)	(0.118)
Parental Expectation about Educational Attainment				
Parental Expectation			0.681 ***	0.306 ***
			(0.031)	(0.023)

APPENDIX C: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES, ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1	Model 2	Model 3	Model 4
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
After School Activities				
English Homework			0.282 ***	0.004
			(0.059)	(0.044)
Leisure Reading			1.413 ***	0.387 ***
			(0.051)	(0.039)
Band			-0.561 ***	-0.407 ***
			(0.157)	(0.119)
Prior Achievement				
8th Grade English Grades			2.337 ***	0.674 ***
			(0.082)	(0.064)
8th Grade IRT Reading Test Score				0.797 ***
				(2.698)
Interactions				
African American * $15,000 to $24,999		1.094		0.866
		(0.794)		(0.511)
African American * $25,000 to $34,999		-0.509		-0.625
		(0.831)		(0.536)
African American * $35,000 to $49,999		-2.207		-0.969
		(1.004)		(0.646)
African American * $50,000 to $74,999		0.429		-0.443
		(1.149)		(0.746)
African American * $75,000 to $ 99,999		5.664		3.002
		(2.076)		(1.334)
African American * More than $100,000		4.756		-0.791
		(3.968)		(2.548)
African American * Less than High		1.359		1.775
		(0.571)		(0.387)
African American * Some College		1.424		0.137
		(0.605)		(0.411)
African American * College Graduate		2.507		1.149
		(0.992)		(0.641)
African American * Master's Degree		-1.549		0.261
		(1.278)		(0.832)
African American * Advanced Degree		3.148		1.474
		(3.737)		(2.401)
African American * Step Parents		0.561		-0.062
		(0.811)		(0.526)

APPENDIX C: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES, ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1	Model 2	Model 3	Model 4
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
African American * Single Mother		0.244		-0.257
		(0.735)		(0.473)
African American * Single Father		-3.306		-1.434
		(1.443)		(0.928)
African American * Other		1.491		0.521
		(1.219)		(0.785)
African American * Mother employed Part-time		-2.182		-0.522
		(0.939)		(0.603)
African American * Stay-at-Home Mother		0.266		0.621
		(0.971)		(0.625)
African American * Less than One			0.938	1.742 **
			(0.791)	(0.571)
African American * One to Two Hours			-1.291	-0.673
			(0.804)	(0.578)
African American * Two to Three Hours			2.011 *	0.836
			(0.945)	(0.681)
African American * Over Three Hours			1.352	0.056
			(0.855)	(0.615)
African American * Often			-0.567	-0.912
			(0.801)	(0.575)
African American * Sometimes			0.544	-0.831
			(0.641)	(0.464)
African American * Rarely			0.602	-1.652 ***
			(0.614)	(0.451)
African American * Rules about Television Program			0.976	0.454
			(0.603)	(0.433)
African American * Rules about Television on School day			-0.197	0.34
			(0.616)	(0.443)
African American * Parental Expectation about Educational Attainment			0.004	0.16
			(0.093)	(0.069)
African American * Homework			0.582 **	0.68 ***
			(0.221)	(0.161)
African American * Leisure Reading			-0.433 *	-0.181
			(0.184)	(0.134)
African American * English Grades			-0.065	0.249
			(0.266)	(0.195)

APPENDIX C: OLS COEFFICIENTS AND STANDARD ERRORS FROM MODELS REGRESSING 10TH GRADE LEVEL OF READING ACHIEVEMENT TEST SCORES ON FAMILY BACKGROUND CHARACTERISTICS, PARENTAL INVOLVEMENT, AFTER SCHOOL ACTIVITIES, ENGLISH GRADES AND PRIOR ACHIEVEMENT

	Model 1	Model 2		Model 3
Independent Variables	**Full Sample**	**Full Sample**	**Full Sample**	**Full Sample**
African American * 8th Grade IRT Reading Test Score				0.122 ***
				(0.025)

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Vita

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